Enumeration of Juvenile and Adult Coho Salmon at Black Creek, Vancouver Island, 2011

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ENUMERATION OF JUVENILE AND ADULT COHO SALMON AT BLACK CREEK, VANCOUVER ISLAND, 2011

by

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ABSTRACT

Campbell, K., Van Will, P., Stiff, H.W., Nagtegaal, D., Miyagi, E., and Duncan, K. 2014. Enumeration of juvenile and adult Coho salmon at Black Creek, Vancouver Island, 2011. Can. Manuscr. Rep. Fish. Aquat. Sci. 3040: viii + 148 p.

The counting fence on Black Creek was in operation between April 14th and June 10th, 2011, to enumerate and tag juvenile Coho smolt out-migration. During the spring program, a total of 28,061 smolts were captured and sampled. Of the captured, 9,756 (35%) smolts were coded-wire tagged and released. However, after factoring for short-term tag loss of 1.43%, 9,611 were effectively tagged. The out-migration was composed of 88% age 1s, 11% age 2s, and less than 1% age 3. The adult fence was in operation between September 27th and December 1st, and spawn surveys were conducted between October 7th and December 24th. A total of 1,768 large adult Coho were enumerated through the fence (male to female ratios of 1:1.4) of which 1,437 were tagged for mark-recovery escapement estimation. 1,521 jacks were enumerated. Coded-wire tags were detected in 50 adults and 89 jacks, indicating a low detection rate (5%). The single-census Petersen mark-recapture population estimate for adult Coho was 1,830 ± 59 fish. The mode of the Bayesian population estimate for adult Coho escapement was 1,811, with a 95% highest probability density of 1,672 – 1,927. Exploitation rate was assumed to be equivalent to the aggregated estimate derived elsewhere for Vancouver Island Georgia Strait Coho: 5.2%. Marine survival was estimated to be 0.96% for Black Creek adult Coho, a decrease from 2010 (1.9%).

RÉSUMÉ

Campbell, K., Van Will, P., Stiff, H.W., Nagtegaal, D., Miyagi, E. et K. Duncan 2014. Dénombrement des saumons coho juvéniles et adultes du ruisseau Black, sur l'île de Vancouver, 2011. Rapp. manus. can. sci. halieut. aquat. 3040 : viii + 148 p.

La barrière de dénombrement du ruisseau Black a été utilisée du 14 avril au 10 juin 2011 pour dénombrer et marquer les saumoneaux coho en dévalaison. Pendant le programme printanier, un total de 28 061 saumoneaux ont été capturés et échantillonnés. On a installé des micromarques magnétisées codées sur 9 756 (35 %) des saumoneaux capturés et on les a remis en liberté. Toutefois, en tenant pour acquis que 1,43 % des micromarques sont perdues à court terme, on considère que 9 611 poissons ont été marqués avec succès. 88 % de la dévalaison consistait en des saumons d'âge 1, 11 % en des saumons d'âge 2, et moins de 1 % en des saumons d'âge 3. La barrière de dénombrement des adultes a été utilisée du 27 septembre au 1er décembre, et des relevés des pontes ont été effectués du 7 novembre au 24 décembre. On a dénombré un total de 1 768 saumons coho adultes de grande taille ayant passé par la barrière (ratio mâles-femelles de 1:1,4), dont 1 437 ont été marqués aux fins de l'estimation de l'échappée par marquage-recapture. On a également dénombré 1 521 unibermarins. On a détecté des micromarques magnétisées codées sur 50 adultes et 89 unibermarins, ce qui représente un faible taux de détection (5 %). L'estimation du nombre de cohos adultes par recensement unique (méthode Peterson) par marquage-recapture était de 1 830 ± 59 poissons. L'estimation de l'échappement pour la population de saumons coho adultes, selon la méthode bayésienne, était de 1 811, et la densité de la probabilité la plus élevée de 95 % était de 1 672 à 1 927. On a présumé que le taux d'exploitation était équivalent à l'estimation agrégée dévirée pour le saumon coho du détroit de Georgie et de l'île de Vancouver, c'est-à-dire 5,2 % Le taux de survie en mer des saumons coho adultes du ruisseau Black a été estimé à 0,96 %, ce qui représente une diminution par rapport à 2010 (1,9 %).

INTRODUCTION

This report documents the 2011 smolt and adult enumeration programs for Coho salmon (*Oncorhynchus kisutch*) at the Black Creek fence. Both enumeration programs are based on sampling conducted at the permanent fence site located 100 m upstream of tidal influence, about 40 m downstream from Seaview Road in Miracle Beach Provincial Park. A series of projects have been conducted sporadically at this location since 1968 (Baillie, Simpson & Taylor 2004) and an uninterrupted data set has been compiled, under the present program, since 1984. In addition to Coho, Black Creek supports populations of coastal cutthroat trout (*O. clarki*), and rainbow trout (*O. mykiss*).

The spring program is designed to assess the out-migration of Coho smolts with respect to numbers, size, age composition, and migration timing. Coded-wire tags (CWTs) are implanted in smolts during specific periods throughout the migration.

Adult Coho returning in the fall are counted at the same location as the smolts utilizing a modified fence configuration. The general structure has been described by Baillie et al. (2004). Modifications were made in 2001, replacing the steel panels with aluminium grates and extending the cat-walk for a further 1.5 m beyond the downstream edge of the concrete sill. The traps were also modified to incorporate an adjustable height exit at the upstream end, through which fish could be counted into the system during flooding, eliminating the necessity to net each one. Each exit features a right-angle aluminium plate, leading upstream, to increase the visibility of fish and counting accuracy under turbid flows. In 2003, the fence center panels were cut in half lengthways and Teflon runners were attached along the contact edge with the A-frame, to facilitate removal during high water events.

Spawners counted through the fence are enumerated by sex, and sampled for length, age and maturity. Carcasses recovered are recorded by sex and location recovered, and sampled for coded-wire tag. Since 1984, mark-recapture has been the primary method of escapement estimation, with marking conducted at the fence and recovery surveys conducted at up to 15 upstream sites.

Recoveries of coded wire tagged Coho in the escapement are used with catch recoveries and release data to estimate ocean survival and exploitation rates. The utility of the data depends on long-term monitoring of escapements, smolt abundances, survivals, catches, exploitations and escapements. Data from the project, along with other sources, is used to predict Coho returns, ocean survival and migration patterns for the south coast of British Columbia.

STUDY AREA

Black Creek is a moderately sized coastal stream located 30 km north of Courtenay, on the east coast of Vancouver Island. It is approximately 31 km long and flows into the Strait of Georgia at Elma Bay (Figure 1). The watershed area is approximately 81 km^2 (Brown, Barton & Langford 1996) and predominantly comprised of agricultural lands with forested areas in the upper catchment. Lower in the watershed, small lakes, of which Northy Lake is the largest, beaver ponds, and swampy areas are distributed among the stream reaches (**Figure 2**). These areas contribute to the characteristic humic stained flows in the lower sections via a number of tributaries, the largest being Millar Creek. Discharge is largely dependent on rainfall; irrigation and drainage projects have reduced already low summer flows in Black Creek, such that, in summer, some sections of the creek are dry. In contrast, fall freshets can result in a discharge of up to 60 m^3/s (Labelle 1990). Once the storage capacity of the watershed is reached, the creek responds rapidly to rainfall, and prolonged flood events tend to be the norm.

METHODS

PHYSICAL OBSERVATIONS

General weather observations were made daily and recorded as subjective comments on rainfall, cloud cover and wind strength. Measurements of river height were normally made each day at about 9:00 a.m. Water level was recorded from a staff gauge (± 5 mm) located approximately 250 m upstream of the fence. Water temperature is taken at the fence site using a digital pocket thermometer daily around 9:00 am.

SMOLT OPERATIONS

The basic sampling and tagging procedures resembled other years of the program. Weekly duties were divided into two days coded-wire tagging and five days enumerating only. The trap was installed on April 14th and maintained until June 10th. Catches from the previous day were removed from the holding boxes at about 9:00 am and sorted into buckets, by species. All sampling and tagging was performed on anaesthetised smolts using tricaine methane sulphonate (MS-222) as the anaesthetic.

Random length samples were collected by measuring, approximately, every 10th Coho smolt on days when coded wire tags (CWTs) were applied. The length-weight relationship for Coho smolts was derived based on the power function:

Equation 1 $W = a * L^{b}$

where W = weight in grams and L is fork length in millimeters. Condition factor (K) was calculated for each smolt as a measure of the fish's degree of well-being or robustness (Williams 2000), as:

Equation 2 $K = 100{,}000\ W / L^{3}$

Data collection to determine the age structure of the population was divided into three periods: April 14th to May 4th, May 5th to May 24th, May 25th to June 10th. During each sample period a scale smear was taken from up to 10 Coho smolts per 5 mm length group. Age determinations were performed by the Fish Ageing Unit at the Pacific Biological Station in Nanaimo, BC. The age composition of smolts was calculated for each of the four sampling periods after Ketchen's stratified sub-sampling method (Ricker 1975).

Smolts were injected with a CWT, which was applied with either a MK II or a MK IV Tagging Unit (Northwest Marine Technologies, Shaw Island, WA 98286). Tagged Coho were placed into a floating holding box to recover from the operation, and released periodically through the day. Untagged Coho (no tag detection by hand-held wand) were re-tagged. Moribund fish were released untagged. Four short-term tag retention tests were conducted (May 5th, May 12th, May 17th, and May 19th) to estimate the number of CWT'd Coho smolts that lost their tag in the first 24 hours.

While Coho fry (which are not consistently captured by the screen size used in traps and panels) and other salmonids were enumerated at the counting fence, meristic data were not collected this year. Non-salmonids were enumerated by species.

ADULT OPERATIONS

Adult Enumeration and Sampling

The counting fence was installed on September 27th and operational until closure on December 1st.

The fence traps were inspected at 8 a.m., and periodically through the day as warranted by fish movement. Individual fish were netted from the trap and sampled for fork length (± 5 mm), sex (female, adult male or jack) and the presence of fin clips or external marks, including hook scars and severe injuries. Weights were not recorded. All fish were examined for the presence of a CWT with a Northwest Marine Technology wand tag detector. Fish condition was assessed using the subjective categories of:

1. Silver (no spawning colour or characteristic morphological changes commonly associated with spawning Coho);
2. Green (some darkening of body colour but little morphological change);
3. Mature (colour and morphological characteristics of a spawning Coho but eggs or sperm not easily expelled); and
4. Ripe (similar to a mature fish, except, eggs and sperm readily expelled with little or no force).

Jack Coho were defined as those male fish with a fork length of less than 45 cm, although this category may include some small adults. Weights were not measured in 2010. Other salmonid species encountered at the fence were identified.

Mark-Recapture

Adult Coho were tagged with a numbered, clear T-bar anchor tag (TBA-2, 2 in., Hallmark Pty Ltd., South Australia, 5211). Tags were inserted into the dorsal musculature on the left side of the dorsal fin, between the anterior pterygiophores. A 7 mm hole was punched in the left operculum of each tagged fish.

Recoveries of marked and unmarked Coho were conducted throughout 8 reaches (Figure 2) during spawning ground surveys between November 8th and December 7th. All fish encountered were checked for marks. Recoveries were classified as untagged, tagged (T-bar tag), or lost tag (opercular punch but no tag). Tag numbers and CWT present, absent, or unknown (due to condition or location) were recorded.

DATA ANALYSIS

Escapement Estimation

Coho escapement population estimates N and variance were derived from single-census Petersen mark-recapture methods (Ricker 1975), using both the bias-corrected hypergeometric estimator and the direct binomial estimator for small samples without replacement. The former was calculated as:

Equation 3 $N = ((M+1) * (C+1) / (R+1)) - 1$

Where M is the number of marks applied, C is the number of fish recovered, and R is the number of marks in the total fish recovered. The variance of this estimate was calculated from:

Equation 4 $\mathrm{Var}\,(N) = (M+1) * (C+1) * (M-R) * (C-R) / ((R+1)^2 * (R+2))$

The binomial estimator can be calculated as:

Equation 5 $N = ((M * (C+1) / (R+1))$

with variance:

Equation 6 $\mathrm{Var}\,(N) = M^2 * (C+1) * (C-R) / ((R+1)^2 * (R+2))$

Additional estimates for Coho adults and adults plus jacks populations were derived from temporal sub-sets of the mark-recapture data using the sequential Bayesian approach (Gazey & Staley 1986). This method has been used in a majority of previous studies to account for under-reporting of tags in visual surveys and to eliminate tag loss corrections (Taylor, Baillie & Simpson 2006). It determines the posterior distribution of probabilities associated with population size from the joint probabilities of mark recovery rates. Calculated population parameters include the mode, a maximum likelihood estimate of the sampling distribution, and the 95% highest probability density (HPD). It should be noted that, while the HPD has equivalence to a confidence interval, it forms a direct probability statement about population size (Gazey & Staley 1986). The mode is reported as a single value, which denotes that each integer between the population bounds has been evaluated.

Exploitation Rate

The percent exploitation rate (ER) of adult Black Creek Coho is calculated as:

Equation 7 $ER = 100\ C / (C + M + E)$

where C is the estimated fishing mortality, M is the known pre-spawn natural mortality, and E is the adult escapement.

Marine Survival

Percent marine survival rate (S), is calculated as:

Equation 8 $S = 100\ (C + M + E) / R$

where C is the estimated fishing mortality, M is the pre-spawn natural mortalities, E is the tagged adult escapement, and R is the number of tagged smolts in 2009, corrected for long-term tag loss.

RESULTS

JUVENILE ENUMERATION

Environmental Conditions

The smolt fence was operational from April 14th to June 10th, 2011. Over the duration of the smolt operations, the water level generally decreased, however there were slight fluctuations throughout.

Daily air temperature averaged 11.2°C ± 3.0°C (range 6.0°C to 21.1°C) during the smolt migration period (**Table 1**, Appendix A). The average daily water temperature was 10.9°C ± 2.4°C (range 6.0°C to 15.0°C).

Fence Counts

Smolt out-migration began in mid-April, with peak daily migration occurring on May 16th (3037 smolts). 53% of the smolt migration occurred between May 14th and May 20th (**Figure 4**) with an average of 2,149 per day (Appendix B)[1]. A total of 28,061 Coho smolts were enumerated. 394 Coho fry were also enumerated.

Smolt Aging

352 smolts were scale-sampled for aging, including 162 in Period 1, 115 in Period 2, 75 in Period 3 (Appendix D). Of the 273 fully-aged scales, 88.3% were from brood year 2009 (age 1.0), 11.4% were from brood year 2008 (age 2.0), and 1 fish was from brood year 2007 (age 3.0)(Table 2). For 70 partially-aged scales, the marine annulus was undetectable, and of 9 unreadable scales, 7 were due to the scales mounted upside down (**Table 3**). As usual for Black Creek, age 1.0 (2_2 Gilbert-Rich) smolts predominated throughout the out-migration period. The contribution of 2.0 (3_3 Gilbert-Rich) was slightly less than in 2010.

Smolt Size

A total of 1,824 smolts were measured for fork length and fresh weight (Appendix E). Length frequency data indicate a right skewed modal peak at 110-114. The right tail is due to the small amount of age 2.0 fish (Table 6, Figure 5).

Mean Coho smolt fork length for all periods was 112.1 ± 13.8 mm (range 81 – 161 mm) (Table 7). Mean smolt weight was 15.1 ± 5.0 g (range 7.2 – 40.1 g). Average length of smolts declined from Period 1 to Period 3, from 120.5 ± 13.6 mm to 99.7 ± 8.9 mm, as did average weight (Table 7). Periods 1, 2 and 3 had similar average condition factor (1.05, 1.08 and 1.10)(Appendix E).

The length/weight relationship (Figure 6) for measured Coho smolts was:

$$\textit{Weight}\text{ (g)} = 0.00002508 * \textit{Length}\text{ (mm)}^{2.8178} \quad (r^2=0.93,\ n=1609)$$

---

[1] Daily counts of non-Coho species through the smolt fence are listed in Appendix C.

CWT Tagging

Coded-wire tagging procedures resulted in a total of 9,756 coded-wire tagged smolts, representing 34% of the out-migration (Table 8).

Pre-sample mortalities (7 fish) affected <0.1% of the total catch. Most were a result of tagging mortalities, representing <0.1% of tagged fish (Table 8).

The short-term 48-hour tag loss rate was estimated at 1.43%, based on four retention tests in which 12 of 904 tagged smolts that did not retain their CWTs (Table 8). Factoring the number of CWT'd smolts by the short-term tag loss percentage resulted in 9,611 effectively tagged smolts.

ADULT ENUMERATION

Environmental Conditions

The adult counting fence was installed and operational from September 27th to December 1st (Appendix F). The adult Coho migration was punctuated by 3 peak migration events. The first occurred on October 5th to October 7th at the beginning of the adult numeration and was dominated by jacks. Water levels at this time were around 90cm. Black Creek water level then showed a slow steady increase in water level from the second peak migration occurred with a slow variable rise in water level from 70cm to around 90cm when the largest peak of adult migration occurred from November 10th to November 12th. The third peak migration occurred during the highest flows (170cm) from November 21st until the last adult fish enumerated through the fence on December 1st. Flooding events led to water flows that often breached the fence from November 21st until early December (Figure 7). After the 3rd migration peak, the amount of adult migrants dropped dramatically until the end of operation on December 1st. However, it is uncertain how many Coho may have migrated upstream during this time due to flood events.

Spot air temperatures varied from -2 to 15ºC (mean 6.8 ºC). Spot water temperatures remained ranged from 1.4 to 11.9ºC (mean 5.2ºC) during the migratory period (Figure 7).

Biological Sampling

A total of 3,345 Coho consisting 1,824 adults and 1,521 jacks were counted. A total of 1,696 adults were sampled, of which 1,437 were marked at the fence between October 27th and December 1st (Table 9).

Fish Condition

The majority of adult Coho returns that were assessed were green (78%) followed by silver (17%). Only 5% was classified as mature (Table 10). The majority of jacks assessed were silver (82%) and 18% were green. Fish that had unknown maturity condition made up less than 1%.

Sex Composition

The tally of 740 males (42%) and 1,028 females (58%) yielded a male-to-female sex ratio of 1:1.4 at the fence (Table 10).

Age Composition

A total of 162 Coho were sampled for scales at the counting fence (Table 11). Of that number, 104 were successfully aged. 90% of aged fish were 1.1 (Gilbert age 3_2) from brood year 2008, and 10% were age 2.1 (Gilbert age 4_3) from brood 2007. For 46 scales were unable to be fully aged, for 40 of them freshwater annulus could not be distinguished and were classified as M1 (1 marine annulus).

Age and Sex Composition

All 150 successfully aged fish were sexed. Age 1.1 females and males comprised of 63% and 27% of the samples, respectively (Table 12). Age 2.1 fish represented 10%.

Size Distribution[2]

The modal length frequency for adult Coho migrants was in the range of 66-70cm for females, 71-75cm for males, and 31-35cm for jacks (Table 13). The mean length for adult males (67.2cm) was not significantly larger than for females (66.9cm)($P > 0.05$); jack Coho average was 33.6cm (Table 14). Due to the large percentage of returning jacks, the length frequency distribution is bimodal (Figure 9).

Size at Age

Size of the at age comparison showed that Female age 1.1 fish were average 66cm in fork length with aged 2.1 slightly larger on average (67cm)(Table 15). Male fish were slightly different in length with aged 1.1 males around 65cm and 2.1 fork lengths around 68cm. Differences may be influenced by the sample size of males being much smaller (34 samples) than females (82 samples).

Coded Wire Tags

Of 3,345 Coho counted at the fence, 2,978 were checked for presence of CWT, including 1,565 adults and 1,413 jacks (Table 16). Coded wire tags were positively located in 50 large adults (34 females, 16 males) and 89 jacks. In total, CWTs were detected in 5% of all fish examined and in 3% of adults examined.

Mark-Recapture

Of the observed 3,345 Coho migrants, 1,437 were tagged with a T-bar tag, combined with a left opercular punch (Table 17). The 1,437 tagged Coho were all large adults (843 females, 593 males, and 1 unsexed). There were no immediate mortalities due to capture, handling, or tagging, and no 24-hour delayed mortalities. Thus tag mortality was assumed negligible.

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[2] Returning Coho weights were not recorded in 2011.

Recoveries of marked and unmarked Coho were conducted at 8 stream reaches between October 7th and December 14th (Table 18, Table 19). Total adult carcasses recovered (247) represented about 7% of the fence adult count, however 15 of the carcasses were not in accessible locations and could not be examined for sex determination and presence of mark. The male to female sex ratio obtained from pooled spawning ground Coho recoveries was about 1:1. As in previous years, the recovery of jack carcasses was problematic.

All carcasses encountered were checked for marks. Of the 247 adult carcasses examined, 182 were marked, 163 of which had T-bar tags, while an additional 84 had operculum punch but T-bar tag was absent (Table 20). The T-bar tag loss percentage was 32%. The male to female ratio of marked recovered carcasses was 1:1.1, while, unmarked Coho carcasses recovered; the majority were males (1.2:1).

Simple Petersen Mark-Recapture Population Estimates

A single-census Petersen mark-recapture estimate for adult Coho (not including jacks) was obtained from the bias-corrected *hypergeometric estimator* (Equation 3) for population size as N=1,830 ± 59 (Table 21). Since the ratio of marked recaptures to catch exceeds 0.1, it may be more appropriate to use the binomial confidence interval calculation (Seber, 1982). The *binomial estimator* (Equation 5) for adult Coho was calculated as N=1,830 ± 63.

Bayesian Posterior Probability Mark-Recapture Population Estimates

The *posterior probability distribution* for adult Coho was constructed from 17 time intervals (T) associated with available marks (M) in the spawning population at time T, the observed number of Coho carcass encounters (C), and the number of marks recovered (R) in the encounters (Table 22). The weighted median and mean of the posterior probability distribution were 1,818 and 1,823 fish, respectively based on1,000 discrete population runs.. These data provided a modal adult population estimate of 1,811 fish (**Figure 10**), with the highest probability density of 1,672 – 1,927 $\alpha = 0.05$) (Figure 11).

EXPLOITATION RATE AND MARINE SURVIVAL

Virtually all Coho from the major South Coast hatcheries have been marked since 1997 (a pelvic fin clip in the first year and an adipose clip thereafter). This was in anticipation of selective mark fisheries, which are intended to harvest hatchery but not wild production. 1997 was the last year when major non-selective fisheries occurred in southern BC. Since Black Creek Coho are a wild stock, smolts were not adipose clipped between 1997 and 2002. However, in 2003 and, again, in 2004 a portion of the smolt output was adipose clipped as well as coded-wire tagged. This was not repeated for any of the 2005 - 2011 smolt production cycles.

It is assumed that Black Creek Coho are encountered in BC and Alaska sport fisheries at the same rate as marked Coho from Quinsam Hatchery, 27 km from Black Creek. Since studies suggest that 10% of sport-caught Coho do not survive after release, the exploitation rate in BC sport fisheries is assumed to be 10% of the Quinsam exploitation in BC catch-and-release recreational fisheries. However, for Alaskan fisheries all Coho are retained so the Alaskan exploitation rate of Black Creek Coho is assumed equal to Quinsam hatchery Coho exploitation.

The percent exploitation rate (*ER*) of adult Black Creek Coho is calculated based on CWT tag estimates, as:

$$ER = 100 * C / (C + M + E)$$

where C is the estimated fishing mortality, M is the known pre-spawn natural adult mortality (assumed to be negligible), E is the adult escapement.

CWT-tagged adult Coho escapement E (63 fish) was derived from the proportion of tagged adult returns (3.5%) multiplied by the modal estimate of the total adult escapement (1,811). The proportion was calculated from the estimated number of CWT adults (55 CWTs, based on 50 observed fish adjusted for long-term tag loss of approximately 10%[3]), divided by the total number of adult Coho examined at the fence for CWTs (1565).

Though catch data (C) are unavailable for Black Creek Coho in 2011, an estimate of 5.2% exploitation was independently provided for Vancouver Island and Georgia Strait Coho for 2011 (source: Pieter Van Will), which can be used to back-calculate the catch mortality. Re-arranging the *ER* equation yields:

$$ER = 100 * (C / (C + 0 + 63)) = 5.2\%$$

$$C = 0.052 * 63 / 0.948$$

$$C = 3.46 \text{ (range: } 3.38 - 3.68)$$

Thus, catch of CWT'd adults is estimated at approximately 3 fish, with a range of 3.38 – 3.68 fish, based on minimum & maximum long-term tag loss rates (Taylor & Baillie, in prep.).

Percent marine survival rate (S), is:

$$S = 100 (C + M + E) / R$$

where C, M and E are calculated as for exploitation rate, and R is the number of tagged smolts in 2010. The estimated number of tagged smolts (R = 6,852) was the result of correcting the CWT'd smolts for short-term tag loss of 0.5% (Campbell et al., 2013).

Thus:

$$S = 100 * (3.46 + 0 + 63) / 6{,}852$$

$$S = 0.97\ \%$$

Thus, marine survival of Coho adults is estimated to be 0.97%. Estimated marine survival and exploitation rates since 1976 are presented in Table 23, where available.

Coho

DISCUSSION

SMOLTS

Smolt migration past the Black Creek fence in 2011 peaked in mid-May between May 14th and 20th, which was later than the previous year that peaked in mid-April. Enumerated Coho smolt out-migrants (28,661), was similar to 2010 out-migration (22,754). Proportion of coded-wire tagged smolts released in 2011(9,756, 35% of total migration) was also similar to 2010 (6,852, 30% of total migration). Short-term tag loss estimates of 1.43% was used to estimate an effective tag release of 9,611 coded-wire tagged smolts migrating to sea in 2011.

As usual for Black Creek, age 1 fish predominated in the 2011 smolt migration (88% of aged fish). The length distribution of partially-aged (M0) fish (Figure 5) suggests that the majority of these fish were also age 1. The remainder of the migration was composed of age 2 smolts, which were most common during the first time period. One age 3 smolt was identified in the Black Creek out-migration for the first time since 2005, and was in the first period of migration.[4]

ADULTS

Black Creek Coho upstream migration is highly dependent on precipitation events to raise creek levels. Over the past several years, peak Coho migration has occurred shortly after the first significant rainfalls (Van Will et al., 2010a and 2010b, Campbell et al., 2012 and 2013). Similar trends occurred in 2011, water temperature and water level conditions were not a barrier to fish migration throughout October until mid November. Upstream migration of adults was confined to three peak migration times while jacks were largely confined to one. The first peak, in early October, consisted of mostly jacks, followed by a the second peak of fish (almost all adults) in early to mid-November, and a third in late November through early December (mostly adults) each associated with pulses in water levels due to precipitation (Figure 7).

There were a greater number of females enumerated through the fence (58%) compared to males; there were 56 fish that were unsexed. The maturity level of each individual fish was documented. In 2011, the percentage of silver condition fish was considerably lower (17%) than in 2010 (62%). Green fish made up 78% and mature made up 5%. The 2010 peak occurred mid-October while the peak adult migration in 2011 was mid-November. It is possible that the large difference in the classification between the 2010 and 2011 could be due fairly stable water levels in through most of the season with increases not occurring until November (Figure 7) delaying migration timing in 2011.

The CWT detection rate (3% out of total Coho examined) was less than 2010 (8.2%) 2009 (8.5%) (Campbell et al., 2012 and 2013), and considerably lower than the 15.5% tag detection rate in 2007 (Van Will et al., 2010b), and 29% in 2006 (Van Will et al.,

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[4] Two age 3 smolts were captured in each of 2001 and 2002; 5 fish were found in 2003; and 1 in 2005.

2010a), and may be indicative of a trend in long-term tagging mortality associated with CWT tagging operations.

High water levels in 2011 affected fence operations in late November, during which time an unknown number of adult Coho could have escaped unexamined, however it was most likely minimal since the bulk had passed through in mid-November. During flooding events, observers counted the number of fish that could be seen jumping the fence but were unable to sample the fish. This may be a source of error in the estimate of marine survival (Equation 8), since the escapement estimate (*E*) is based in part on the total number of CWTs detected. However, since this count is tallied in ratio to the total number of fish checked, which is also biased downward to an unknown degree, it is not possible to determine the level of error in *E*, if any.

Taylor and Baillie (in prep.) showed that inter-annual variation in the distribution of spawners amongst spawning ground sites is high, indicating that spawner distribution does not appear to be a function of run size or available spawner habitat, or related in any obvious way to variations in hydrologic conditions.

The continuing high T-bar tag loss rate (32%, compared to 54% in 2010, and 57% in 2009 (Campbell et al., 2012 and 2013) in spawning ground recoveries of marked Coho is most likely due to tags getting caught in low bushes in tributaries and the creek itself. However, tag loss would have little repercussion on the population estimate if the accompanying opercular punch was identified each case. Since it is possible that either tag can be lost, there might be "marked" fish in the recoveries, which have lost both marks. Thus, of the 15 fish that were found but marks could not be identified, some proportion may have been marked. The inability to account for these missing marks would bias the estimated population size upwards by an unknown amount.

ESCAPEMENT ESTIMATION

The single-census Petersen hypergeometric and binomial mark-recapture estimators for adult Coho population size were not significantly different from each other at the α = .05 level, being approximately 1,830 ± 59 fish.

The modal Bayesian population estimate was 1,811 adult Coho with a 95% probability density of 1,672 – 1,927 fish.

The Bayesian estimates have been consistently higher than single-census Petersen estimates since 2003 (Figure 12), however it was lower slightly lower in 2011. These estimates were not significantly different from each other at the $\alpha = 0.05$ level.

Estimated 2011 adult escapement numbers (1,811) represents a 60% increase relative to the escapement population size (1,120) in the contributing brood year of 2008, this indicates a continuing increasing trend in spawner replacement (Figure 12).

Taylor and Baillie (in prep.) describe the potentials for bias in generating Bayesian population estimates due to differential rates of recapture of tagged versus untagged fish, tag loss, and/or unobserved migration. They found that the initial trend of increasing population size stabilized in the final sampling sequences after mid-November, following the dispersal of unmarked Coho into the spawning sites. In 2011, all upstream migrants were enumerated at the fence until December 1st; however, unobserved migrants may have escaped during flood events during hours that the fence was not being observed. This may lead to some bias into the escapement estimate, and may thereby be affecting both marine survival and exploitation rates to some degree. In addition, the inability to account for missing marks would bias the estimated population size upwards by an unknown amount.

EXPLOITATION RATE

Commercial fisheries in southern BC have been designed to avoid Coho catches, and incidentally-caught Coho cannot be retained. However, non-selective sport and commercial fisheries still exist from the central coast to Alaska and in Washington State. Retention of unmarked Coho by sport fishermen is now permitted in some terminal areas on the west coast of Vancouver Island. Though few Black Creek Coho have occurred in these areas historically, those that were caught go largely undetected since unmarked Coho are typically not scanned for the presence of a CWT. The catch is assumed to be small; fishing mortality is assumed to consist entirely of release mortality in sport fisheries (10%).

Significant conservation measures initiated in 1997 have reduced fishing mortality on Black Creek Coho. The regional estimate of 5.2% for Vancouver Island-based Georgia Strait Coho for 2010, was lower than 2009 (6.46%). The estimate has averaged 4.24% since 1998, down from an average of 7.3% for the years 1986-1997.

MARINE SURVIVAL

Despite significant reductions in exploitation since 1998, Black Creek Coho marine survival remains persistently suppressed at low levels, mirroring declines seen elsewhere in the Strait of Georgia basin (Figure 13). The 2011 marine survival estimate of 0.97% is a decrease from recent years 2010 (1.9%) and 2009 (3.28%) (Campbell et al., 2012 and 2013), and is one of the lowest in recent record (1998 - 2011). The low marine survival in 2011 highlights the continued challenge faced by Strait of Georgia Coho stocks.

RECOMMENDATIONS

The following recommendations arising out of this report may facilitate future Black Creek Coho enumeration operations, data management, and analysis.

JUVENILE ENUMERATION OPERATIONS

1. Estimates of long-term CWT tag loss have varied from 4.6 to 16.4% for return years prior to 2006, but should be reviewed for more recent broods. Include adipose fin-clipping or equivalent marking to facilitate assessment of long-term CWT tag loss. Long-term tag loss studies require independent groups of CWT'd smolts which do not overlap with short-term 24-hour tag loss smolt sets.
2. The percentage of CWTs recovered in returning adults is low. Increase the number of tag retention test to 4. Currently tag retention test are 24 hour time

test, this should be increased to 48 hours. Tagged juveniles should be held in a recovery box for a period time to minimize their susceptibility to predators.

3. Trap box over-crowding during peak out-migration can result in pre-sample smolt mortality rates of up to 5% on a given date, and potentially delay or impact tagging operations if surviving fish are significantly stressed. Extra attention to trap management during peak migration periods may alleviate this unnecessary mortality.

ADULT ENUMERATION OPERATIONS

1. Due to low CWT detection in adult Coho at Black Creek, different methods and equipment should be considered.

SPAWN SURVEY OPERATIONS

1. Obtain physical data from key spawning ground locations, including water temperature data and/or cross-sectional creek profiles, to ascertain whether temperature or bedload movement might be a factor in spawner distribution.

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TABLES

Table 1. Environmental conditions during smolt fence operations, 2011.

Date	Water Temp (C°)	Air Temp (C°)	Water Level (cm)	Weather	Comments
14-Apr	6	6	86	Cloud	
15-Apr	7	6.5	85	Sun	
16-Apr	6.5	6.2	84	Cloud/Sun	No sampling
17-Apr	6	6.7	82	Sun	35 L/W , 35 released
18-Apr	6.6	7.5	80	Sun	34 released
19-Apr	-	-	-	-	Trap not checked
20-Apr	8.9	7.2	78	Cloud/Rain	No sampling
21-Apr	7	8	78	Sun	
22-Apr	7.5	9	78	Sun	
23-Apr	7.9	11	77	Sun	No sampling
24-Apr	9.4	8.9	76	Cloud/Rain	No sampling
25-Apr	8.4	6.9	75	Sun/Cloud	No sampling
26-Apr	8.8	7.9	75	Cloud	No sampling
27-Apr	9.6	9.5	80	Cloud/Rain	83 L/W
28-Apr	8	9		Cloud	
29-Apr	8	10	81	Sun	
30-Apr	8.9	8.7	80	Sun	70 L/W
1-May	10.4	10.7	78	Cloud	105 L/W
2-May	11.1	9.6	78	Sun/Cloud	105 L/S
3-May	9.9	11	78	Cloud	75 L/S, 105 L/W, 29 Released
4-May	11.1	12.5	77	Sun/Cloud	12 L/S, 105 L/W
5-May	11	12	76	Sun	DFO
6-May	11.5	12	75	Cloud	DFO
7-May	9.3	9	80	Cloud/Rain	12 morts, no sampling
8-May	11.9	13.7	82	Sun/Cloud	140 L/W, 2290 released
9-May	11.8	14	80	Sun/Cloud	105 L/W, 985 Released
10-May	12.2	12	78	Sun/Rain	35 L/W, 50 S/L, 50 Released
11-May	11.3	10.4	77	Cloud	70 L/W, 25 S/L, 443 Released
12-May	10	10	74	Sun	DFO
13-May	10	12	74	Sun	
14-May	10.9	10.6	74	Cloud	
15-May	11.7	11.9	80	Cloud	70 L/W, rest released
16-May	11.2	10.9	84	Cloud	1 Steelhead
17-May	10.4	9	84	Sun	
18-May	12.5	12	77	Cloud	DFO
19-May	12.5	13.5	77	Sun	DFO
20-May	12.1	13	76	Sun	25 L/S, 75 L/W
21-May	13.1	-	77	Cloud/Rain	70 L/W
22-May	12.6	11	75	Cloud	70 L/W, 197 Released
23-May	12	10	73.25	Sun/Rain	70 L/W, 627 Released
24-May	12.9	13.5	74	Sun	66 L/W, 15 L/S, 160 Released
25-May	13.1	12	70.5	Sun/Rain	10 L/W, 25 L/S, 33 Released
26-May	13	13	70	Cloud	DFO

Date	Water Temp (C°)	Air Temp (C°)	Water Level (cm)	Weather	Comments
27-May	12	10.5	76	Rain	DFO
28-May	11.1	11	76	Sun	50 L/S
29-May	11	12	75	Sun	77 Released
30-May	11.9	13.5	73	Cloud	122 Released
31-May	15	21.1	70	Sun	23 Released
1-Jun	13	15	73	Cloud/Rain	47 Released
2-Jun	13	12	80	Rain	DFO
3-Jun	13	15	81	Sun/Cloud	DFO
4-Jun	13	11	80	Sun	71 Released
5-Jun	14	13	79	Sun	42 Released
6-Jun	14.1	17	79	Sun	19 Released
7-Jun	14.2	15	73	Sun	1 Released
8-Jun	15	18	70	Sun	
9-Jun	14	13	69	Cloud	
10-Jun	14	14	69	Cloud	Program End

Table 2. Scale age composition of Black Creek Coho smolts sampled at the juvenile weir, April 14th – June 10th, 2011. Fully aged fish.

AGE COMPOSITION				
European	**Gilbert-Rich**	**Brood Year**	**Frequency**	**Percent**
1.0	22	2009	241	88.3%
2.0	33	2008	31	11.4%
3.0	44	2007	1	0.4%
Totals			273	100.0%

Table 3. Scale age composition of Black Creek Coho smolts sampled at the juvenile weir, April 14th – June 10th, 2011. Partially aged or un-aged fish.

PARTIALLY AGED				
M0	0M	No Marine Annulus (partial age)	70	100%
UNAGED				
UD	UD	Upside Down Scale	7	77.8%
W	W	Wet (mounted with too much water)	1	11.1%
MF	MF	Mixed Fish	1	11.1%
Totals			9	100.0%

Table 4. Summary of Coho smolt scale ages by sampling period, 2011.

Period	**Statistic**	**Scale Age**					**Total**
		N/A	**1.0**	**2.0**	**3.0**	**M0**	
Period 1:	Count	6	100	25	1	30	162
Apr 14 - May 4	Percent	3.7%	61.7%	15.4%	0.6%	18.5%	100.0%
Period 2:	Count	1	86	5	0	23	115
May 5 - May 24	Percent	0.9%	74.8%	4.3%	0.0%	20.0%	100.0%
Period 3:	Count	2	55	1	0	17	75
May 25 - Jun 10	Percent	2.7%	73.3%	1.3%	0.0%	22.7%	100.0%
Total Count		9	241	31	1	70	352
Total Percent		2.6%	68.5%	8.8%	0.3%	19.9%	100.0%

Table 5. Summary of 2011 length (mm) at age of Coho smolts.

Statistic	Smolt Age					
	1	2	3	M0	N/A	ALL
Count	241	31	1	71	8	351
Percent	88%	11%	1%	-	-	100%
Min Length	90	115	152	90	90	90
Mean Length	111.0	134.4	152	112.4	110.9	113.4
Max Length	143	153	152	141	130	152
SD Length	12.5	10.1	-	14.1	13.6	14.4

Table 6. Length frequency of Coho smolts by period, 2011.

Fork Length (mm)	Period 1	Period 2	Period 3	Total
80-84	1	5	1	7
85-89	2	33	3	38
90-94	20	76	11	107
95-99	31	153	10	194
100-104	38	181	4	223
105-109	54	172	8	234
110-114	70	176	5	251
115-119	99	106	3	208
120-124	106	68	0	174
125-129	114	43	0	157
130-134	81	16	0	97
135-139	55	7	0	62
140-144	38	3	0	41
145-149	21	1	0	22
150-154	7	0	0	7
155-159	1	0	0	1
160-164	1	0	0	1
All	**739**	**1040**	**45**	**1824**

Table 7. Size statistics for Coho smolts by sampling period, 2011.

Period	Fork Length (mm)					Weight (g)				
	N	Min	Mean	Max	Mode	N	Min	Mean	Max	Std
1	739	88	120.5	161	125-129	525	7.2	18.6	40.1	5.05
2	1040	81	106.7	146	100-104	1040	3.6	13.4	33.8	4.05
3	45	84	99.7	117	90-94	45	6.8	11.1	17.1	2.87
All	1824	81	112.1	161	110-114	1610	3.6	15.1	40.1	5.04

Table 8. Summary of catches and coded-wire tag releases of Coho smolts by tag series and sampling date, 2011.

Date	CWT Code	Pre-Morts *	Number Tagged	Unmarked Releases	Pin Retention Test Fish	Number of Non-Retentions	48hr Tag Loss	Effective CWTs	No Pin Fish	Comments
21-Apr	180997	0	23	3				22	1	
28-Apr	180997	2	189	6				186	3	
29-Apr	180997	0	220	6				216	4	
5-May	180997	0	489	5	200	2	1.00%	482	7	Retention Test
6-May	180997	2	677	1				667	10	
11-May	180997	0	527	3	300	2	0.70%	519	8	Retention Test
12-May	180997	0	491	0				483	8	
17-May	180997	1	2892	113	202	4	2.00%	2850	42	Retention Test
18-May	180997	2	1834	318				1807	27	
19-May	180997	0	2414	28	202	4	2.00%	2379	35	Retention Test
Totals		7	9756	484	904	12	1.43%	9611	145	

*No post tagged mortalities

Table 9. Daily upstream migration through the adult counting fence, 2011.

Date	Coho		Chum	Chinook	Cutthroat	Comment
	Adults	Jacks				
27-Sep	3	14				
28-Sep	0	0				
29-Sep	0	0				
30-Sep	0	7				
1-Oct	0	0				
2-Oct	0	0				
3-Oct	0	0				
4-Oct	1	22				
5-Oct	99	299			13	
6-Oct	173	248			13	68 J, 5 M, 6 F, 33 Unsexed adults not sampled
7-Oct	38	280			7	1F not sampled
8-Oct	16	20			1	6 F, 1 M not sampled
9-Oct	1	24			1	
10-Oct	2	3				
11-Oct	31	208			10	
12-Oct	14	40			2	
13-Oct	0	6				
14-Oct	0	1				
15-Oct	0	0				
16-Oct	0	0				
17-Oct	0	1				
18-Oct	0	0				
19-Oct	0	0			0	
20-Oct	0	0			1	
21-Oct	0	0				
22-Oct	0	0				
23-Oct	0	1				
24-Oct	0	0				
25-Oct	0	0				
26-Oct	0	0				
27-Oct	0	0				
28-Oct	0	0				
29-Oct	0	0				
30-Oct	0	1				
31-Oct	0	0				

Date	Coho		Chum	Chinook	Cutthroat	Comment
1-Nov	0	0				
2-Nov	0	0				
3-Nov	0	0				
4-Nov	0	0				
5-Nov	0	0				
6-Nov	0	0				
7-Nov	0	0				
8-Nov	0	0				
9-Nov	0	0				
10-Nov	47	47			2	
11-Nov	436	65		1	3	2 Unsexed adults not sampled
12-Nov	56	6				5 Unsexed adults not sampled
13-Nov	3	0				
14-Nov	2	0				
15-Nov	0	1				
16-Nov	0	1				
17-Nov	6	1				
18-Nov	1	0				
19-Nov	0	0				
20-Nov	0	0				
21-Nov	0	0				
22-Nov	208	57				
23-Nov	113	27	1		1	
24-Nov	24	16			3	
25-Nov	86	23			7	
26-Nov	0	0				
27-Nov	126	34			11	
28-Nov	146	29			5	15 Unsexed adults not sampled
29-Nov	151	32	1		15	16M, 20F not sampled
30-Nov	38	7	1			10M, 7F, 7J not sampled
1-Dec	3	0			1	
Total	1824	1521	3	1	96	

Table 10. Relative condition of maturity of Black Creek Coho as assessed subjectively at the counting fence, 2011.

Condition	Females	Males	Jacks	Unknown	All
Silver	149	79	1080	-	1308
Green	594	458	232	-	1284
Mature	37	36	1	-	74
Unknown	248	167	208	56	679
All	1028	740	1521	56	3345

Table 11. Summary of Coho adult scale ages, 2011.

Period	Data	Scale Age				Grand Total
		1.1	2.1	M1	N/A	
Oct 11 - Dec 7	Count	104	12	40	6	162
	Percent of Scales	64.2%	7.4%	24.7%	3.7%	100.0%
	Percent of Fully Aged Scales	90.0%	10.0%			100.0%

Table 12. Age and sex composition for adult Coho, 2011.

Sex	Statistic	1.1	2.1	M1	Grand Total
Female	Count	73	9	27	109
	Percent	67.0%	8.3%	24.7%	100.0%
Male	Count	31	3	13	47
	Percent	66.0%	6.4%	27.6%	100.0%
Total Count		104	12	40	156
Total Percent		66.7%	7.7%	25.6%	100.0%

Table 13. Fork length (cm) frequency distribution data for adult and jack Coho, 2011.

Fork Length Range (cm)	Females	Males	Jacks	Unknown	Totals
16-20			1		1
21-25			4		4
26-30			237		237
31-35			809		809
36-40			359		359
41-45		4	34		38
46-50	8	20			28
51-55	26	34			60
56-60	69	66			135
61-65	235	132			367
66-70	401	179			580
71-75	230	199			429
76-80	19	67			86
81-85		6			6
86-90		1			1
91-95					
96-100					
Not Measured	40	32	77	56	205
Total	1028	740	1521	56	3345

Table 14. Statistical summary of fork length (cm) data for adult and jack Coho, 2011.

Statistic	Females	Males	Jacks	All
Count	988	708	1446	3142
Minimum	46	45	20	20
Mean	66.9	67.2	33.6	54.6
Maximum	78	87	44	87
Std Deviation	5.3	7.5	3.3	17.5

*203 Coho not sampled for length

Table 15. Length-at-age for aged adult Coho, 2011.

Sex	Fork Length (cm)	1.1	2.1	All Ages
F	Count	73	9	82
	Mean	66.0	67.1	66.4
	Std Dev	5.7	4	5.5
M	Count	31	3	34
	Mean	64.7	68.3	65
	Std Dev	6.3	4.5	6.2
Total Count		104	12	116
Overall Average		66.0	67.4	66.0
Standard Deviation		5.9	3.9	5.8

Table 16. Summary of coded-wire tag detections during Coho movement through the counting fence, 2011.

Sex	CWT Present	CWT Absent	Not Checked	Total
F	34	879	115	1028
M	16	636	88	740
J	89	1324	108	1521
Unknown			56	56
Total	139	2839	367	3345

Table 17. Summary of Coho adult and jack tag operations at the counting fence, 2011.

	Females	Males	Jacks	Unsexed Adults	All
Captured	1028	740	1521	56	3345
Tagged	843	593	0	1	1437
Not Tagged	185	147	1521	55	1908

Table 18. Summary of recoveries of Coho from spawning ground sampling sites, 2011.

Reach (#)	Unmarked			Marked				Mark Unknown			Total
	F	M	Total	F	M	Unk	Total	F	M	Total	
1	5	4	9	7	9	12	28	4	6	10	47
2	2	2	4	1	1	8	10				14
3	2	3	5	9	12	1	22				27
4	5	5	10	9	8	1	18				28
5	2	2	4	9	8	2	19	3	1	4	27
6											0
7	2	4	6	13	12		25				31
8	5	7	12	29	20	11	60	1		1	73
Total	23	27	50	77	70	35	182	8	7	15	247

Table 19. Summary of adult Coho recoveries by date, sex, and mark presence (N=No, Y=Yes, Unk=Unknown) on the Black Creek watershed spawning grounds, 2011.

Date	Females				Males				Sex Unknown				Grand Total
	N	Y	Unk	Total	N	Y	Unk	Total	N	Y	Unk	Total	
7-Oct-11							1	1					1
20-Oct-11							1	1					1
27-Oct-11			1	1			1	1					2
4-Nov-11							2	2					2
13-Nov-11			1	1		1		1					2
16-Nov-11			2	2			1	1					3
17-Nov-11		1		1									1
30-Nov-11	3	13		16	6	17		23					39
1-Dec-11	4	2		6	3	3	1	7		1		1	14
2-Dec-11	1	4	4	9	1	5		6					15
5-Dec-11	5	1		6	4	3		7		16		16	29
6-Dec-11	2	4		6	4	5		9		1		1	16
7-Dec-11	4	16		20	4	13		17		1		1	38
8-Dec-11	1	10		11	2	5		7					18
9-Dec-11	3	11		14	2	6		8		5		5	27
13-Dec-11		12		12	1	9		10		9		9	31
14-Dec-11		3		3		3		3		2		2	8
Total	23	77	8	108	27	70	7	104	0	35	0	35	247

*15 carcasses were observed in locations that were not accessible and therefore were not checked for sex, punch, or tag.

Table 20. Mark application and recovery by sex for the 2011 Black Creek Coho escapement, comparing recovery rates for spaghetti tagged versus left opercular-punched fish.

Sex	Marks Applied		Marks Recovered			% Recovery		
	Tag	L-Punch	Tag	L-Punch	Marked	Tag	L-Punch	Marked
F	843	843	67	77	77	7.9%	9.1%	9.1%
M	593	593	61	70	70	10.3%	11.8%	11.8%
J	0	0	0	0	0	0.0%	0.0%	0.0%
Unk	1	1	35	35	35	-	-	-
Total	1437	1437	163	182	182	11.3%	12.7%	12.7%

*Marks were not determined on 8 females and 7 males

Table 21. Petersen mark/recapture escapement estimation based on Black Creek adult Coho marked fish and recoveries.

Adults	
Marks	1437
Captures	232
Recoveries	182
R/C	78%

Petersen Pop Estimator	Pop	Var	Std
Hypergeometric	1,829.90	3,430.64	58.57
Binomial	1,829.62	3,904.09	62.48
Inverse Hypergeometric	1,832.05		
Inverse Binomial	1,831.78	3951.64	62.86

Table 22. Black Creek adult Coho marks and recoveries, by date of recapture, for Bayesian escapement population estimation.

Date	Time Interval (T)	Catch (C)	Marks Available (M)	Recovered Marks (R)
07-Oct-11	1	1	265	0
20-Oct-11	2	1	321	0
27-Oct-11	3	2	321	0
04-Nov-11	4	2	321	0
13-Nov-11	5	2	630	1
16-Nov-11	6	3	631	0
17-Nov-11	7	1	637	1
30-Nov-11	8	39	1432	30
01-Dec-11	9	13	1405	6
02-Dec-11	10	16	1399	9
05-Dec-11	11	29	1390	20
06-Dec-11	12	16	1370	10
07-Dec-11	13	38	1360	30
08-Dec-11	14	18	1330	15
09-Dec-11	15	27	1315	22
13-Dec-11	16	31	1293	30
14-Dec-11	17	8	1263	8

Table 23. Estimated marine survival and associated exploitation rate in marine fisheries, 1976-2011.

Return Year	Smolt to Adult Survival Rate	Exploitation Rate
1976	0.190[1]	0.915
1977	0.198[2]	0.836
1978-1985	-	-
1986	0.125	0.727
1987	0.115	0.847
1988	0.134	0.676
1989	0.115	0.697
1990	0.129	0.713
1991	0.080	0.677
1992	0.125	0.767
1993	0.054	0.739
1994	0.059	0.79
1995	0.045	0.567
1996	0.034	0.703
1997	0.049	0.541
1998	0.045	0.03
1999	0.017	0.03
2000	0.022	0.03
2001	0.074	0.046
2002	0.049	0.059
2003	0.030	0.043
2004	0.044	0.043
2005	0.0176	0.044
2006	0.014	0.044
2007	0.025	0.042
2008	0.0063	0.058
2009	0.034	0.038
2010	0.0189	0.065
2011	0.0097	0.052

[1] Probable under-estimate due to probable under-estimate of escapement
[2] Probable over-estimate due to probable under-estimate of escapement

FIGURES

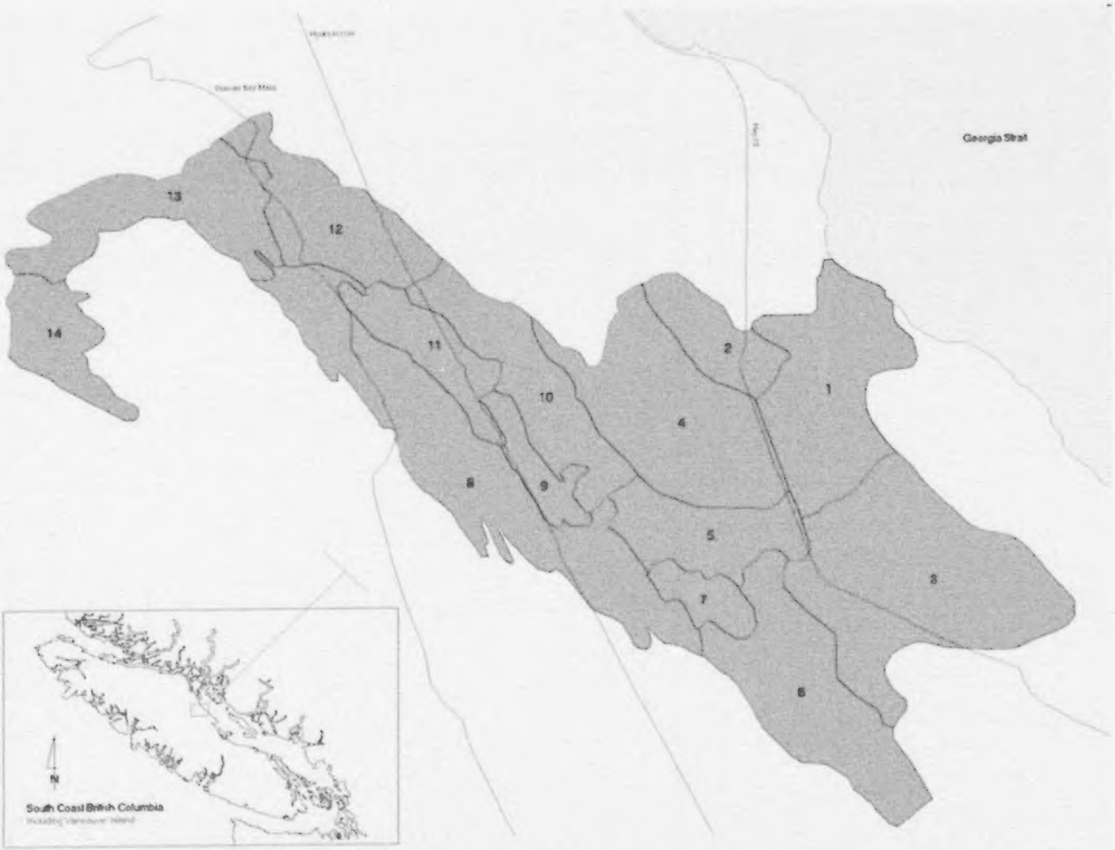
Georgia Strait
13
12
14
11
10
2
1
4
8
9
5
3
7
6
N
South Coast British Columbia
Including Vancouver Island

Figure 1. The Black Creek watershed and sub-basin boundaries (after Brown et al. 1999).

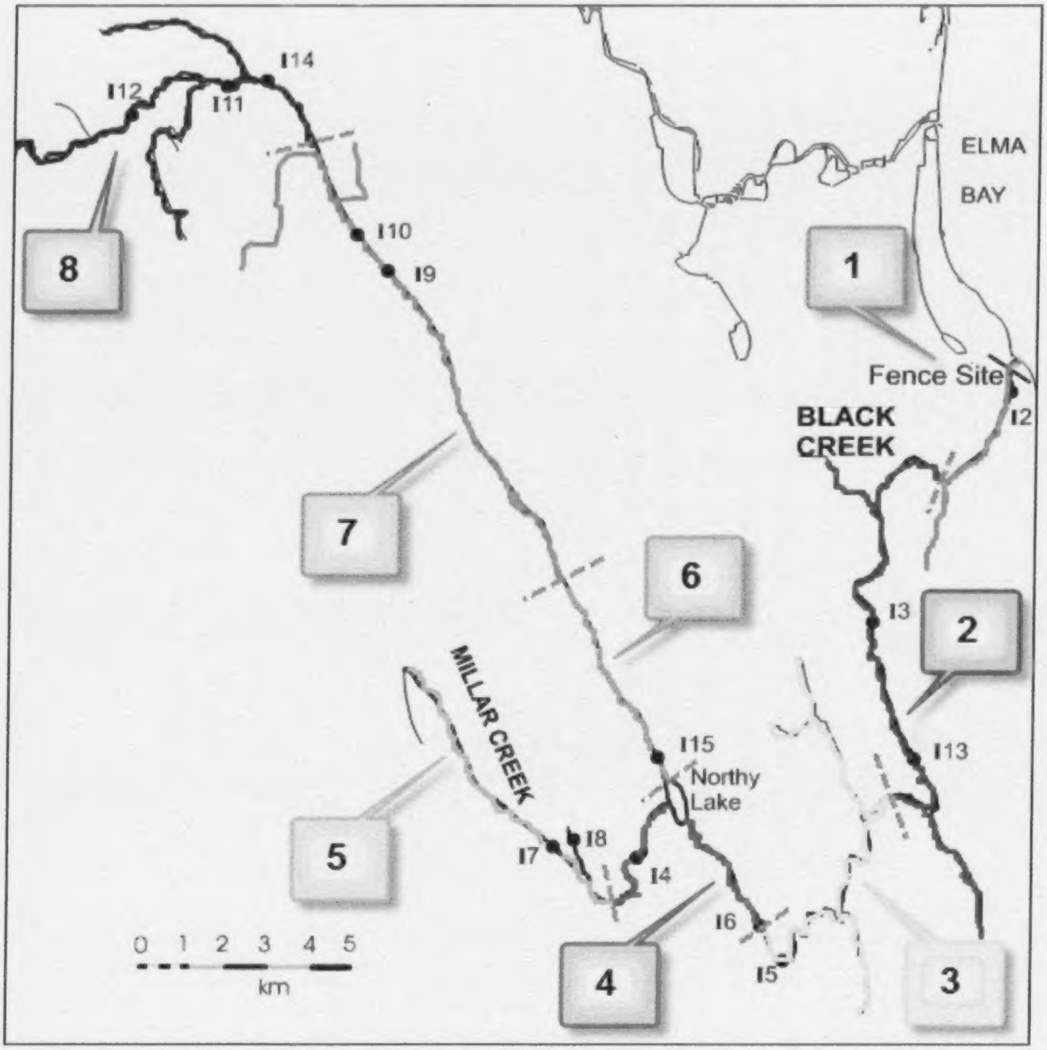
I14
I12
I11
I10
I9
8
ELMA
BAY
1
Fence Site
I2
BLACK
CREEK
7
6
I3
2
MILLAR CREEK
I15
Northy
Lake
I13
I8
I7
I4
5
I6
I5
4
3
0 1 2 3 4 5
km

Figure 2. The Black Creek system, showing the locations of the fence and recovery sampling sites, by reach

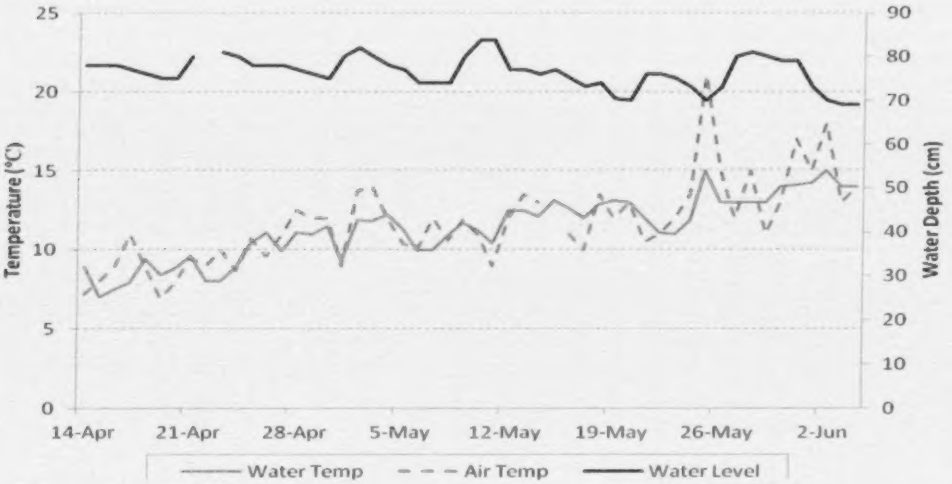

Figure 3. Black Creek water level and temperature during the 2011 smolt outmigration period.

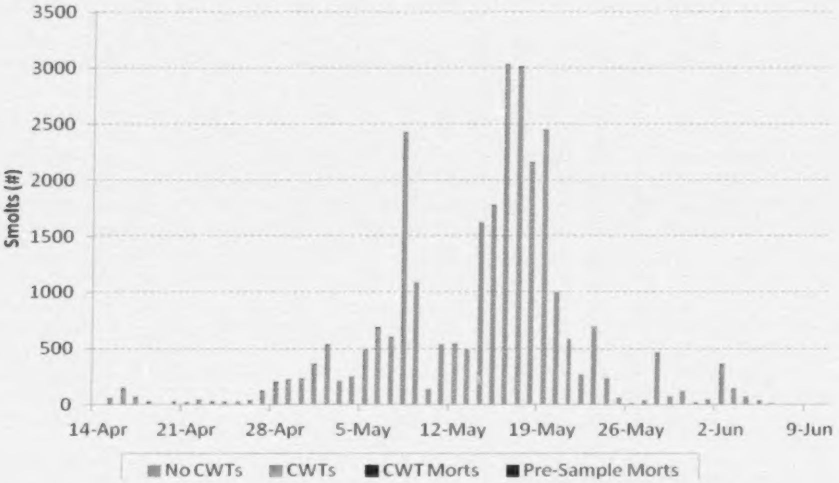

Figure 4. 2011 Black Creek daily Coho smolt out-migration.

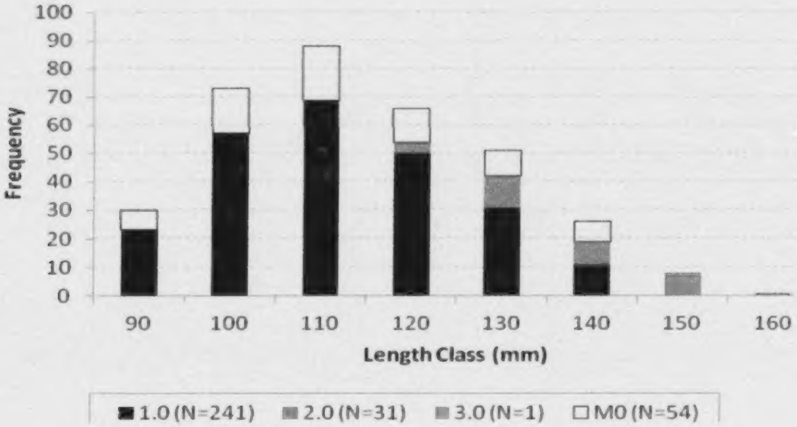

Figure 5. Smolt length frequency by age class (N= 327). X-axis value represents low end of category (e.g., Length Class "90" represents fish 85-94 mm).

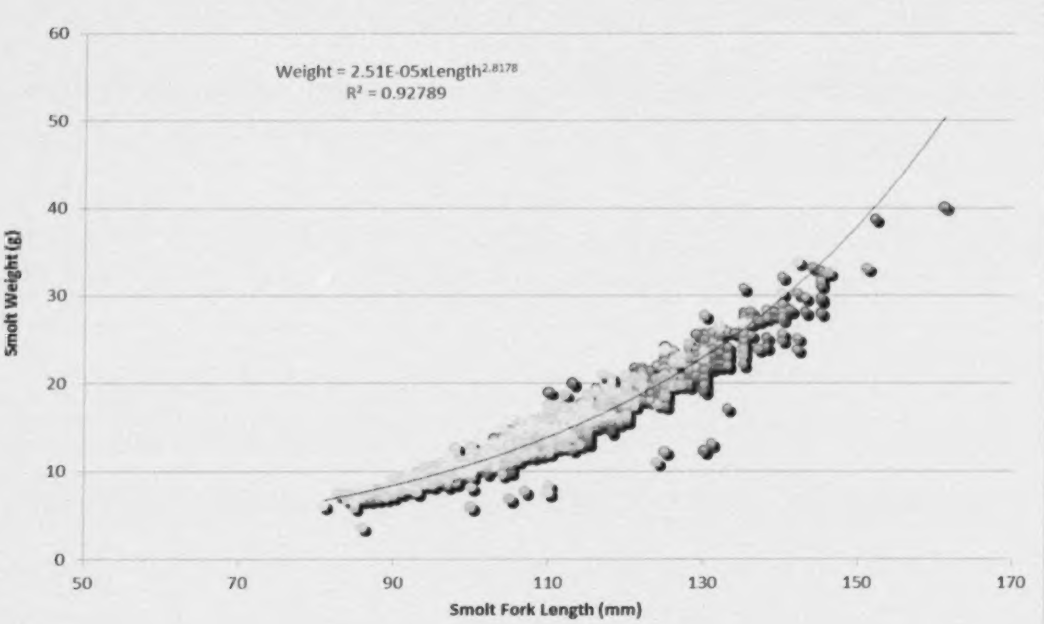

Figure 6. Black Creek Coho smolts length-weight relationship, (N = 1,609).

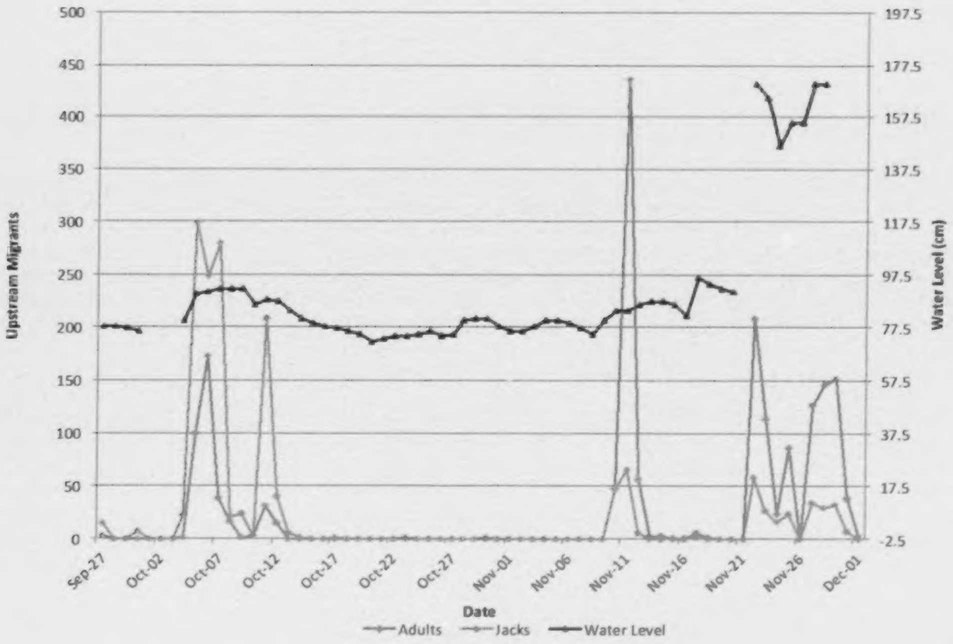

Figure 7. Adult and jack Coho escapement and corresponding water levels, 2011.

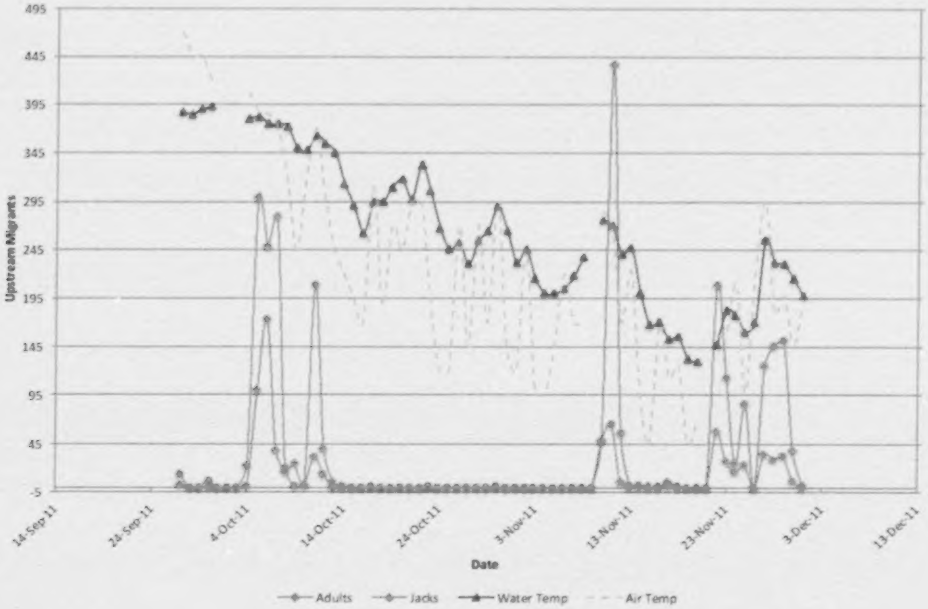

Figure 8. Air and water temperature time-series during adult migration period, 2011.

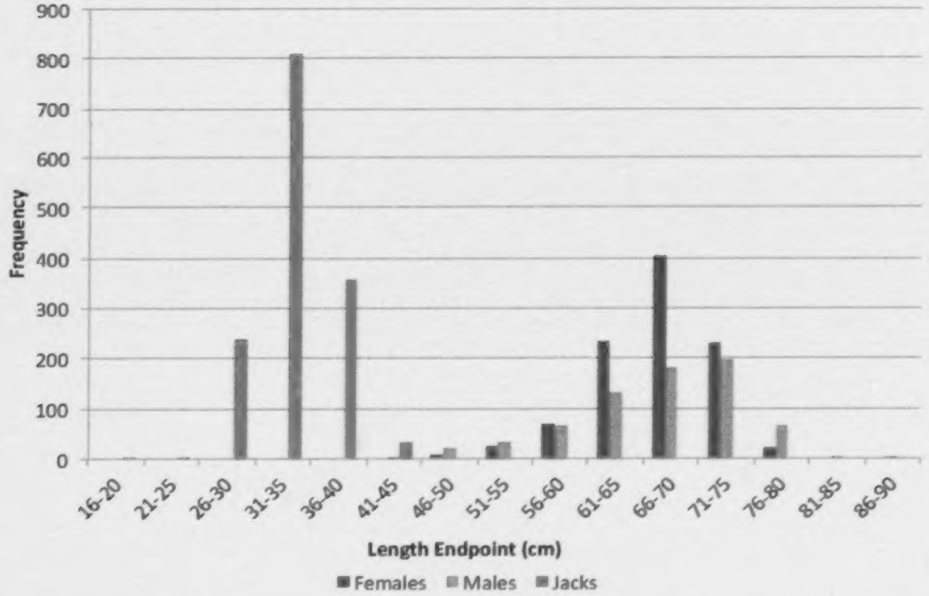

Figure 9. Length-frequency distribution of Coho adults and jacks, 2011.

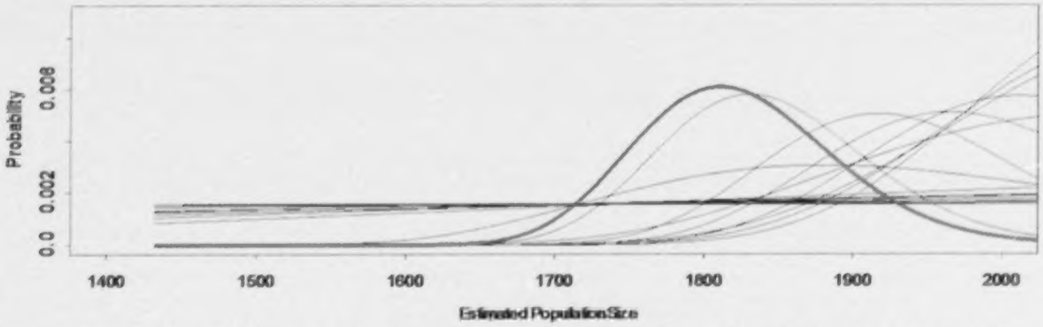

Figure 10. Sequential plots of the posterior distribution of the Bayesian population estimate for 2011 Coho adults from marked releases. Final sequence is depicted by solid line. Modal estimate is 1,811 adults (95% confidence range: 1,672 – 1,927).

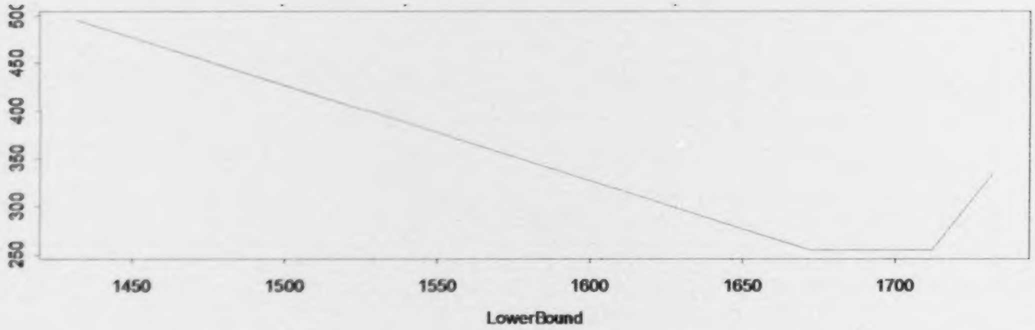

Figure 11. Minimum and maximum population estimates and precision (1,672 < Pop < 1,927; α = 0.05) based on posterior distribution of the Bayesian population estimate for Coho adults, 2011.

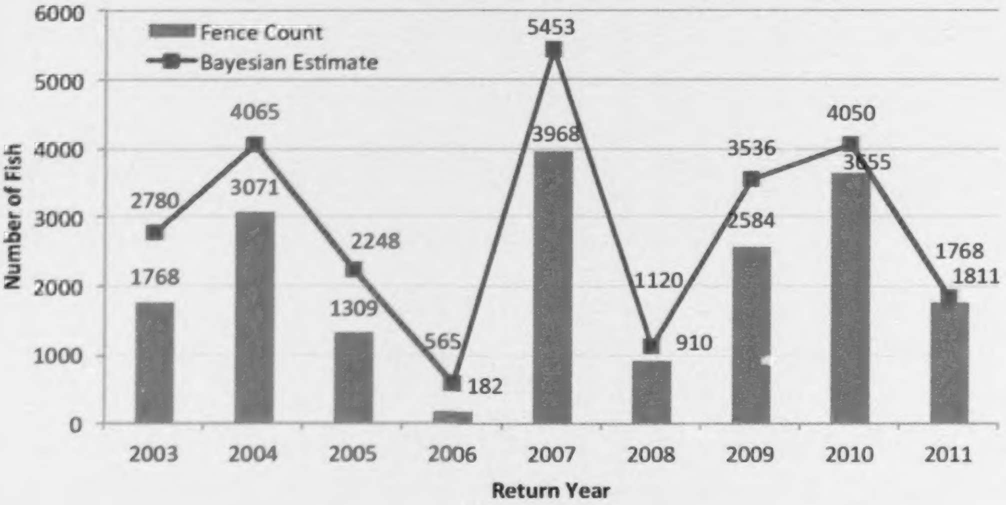

Figure 12. Black Creek adult Coho fence counts and Bayesian population estimates, 2003-2011.

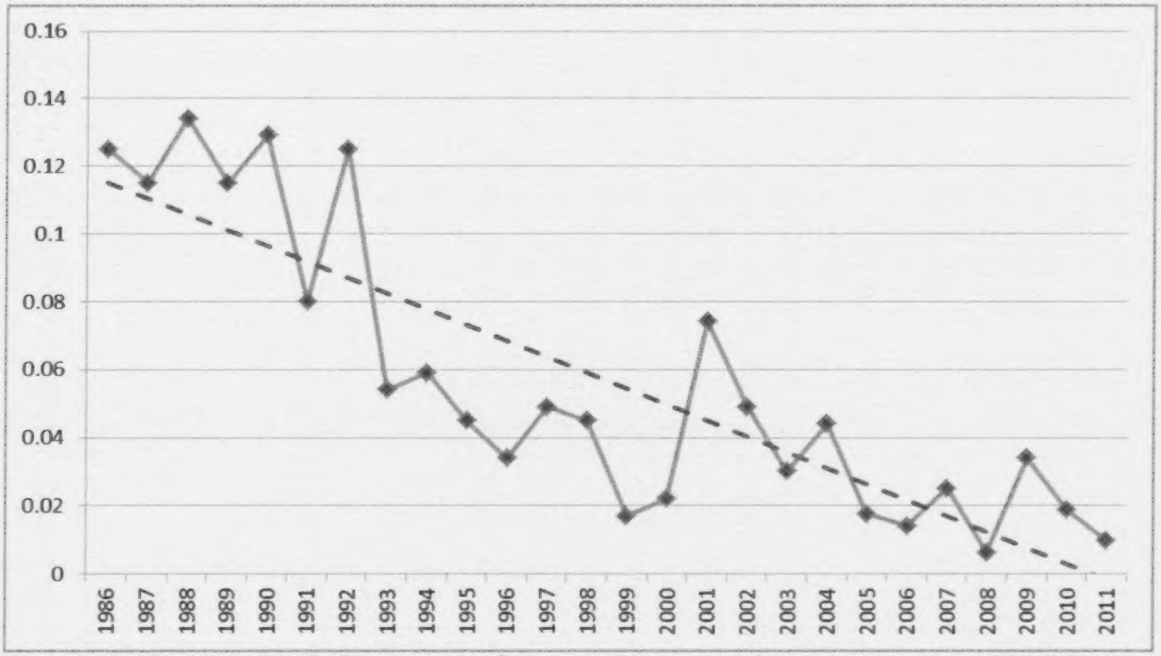

Figure 13. Trend in Black Creek adult Coho marine survival, by return year, 1986-2011.

APPENDICES

Appendix A. Daily water level and temperature during the 2011 spring outmigration.

Date	Day	Water Temp (C°)	Air Temp (C°)	Water Level (cm)	Weather	Comments
16-Apr-11	Sat.	6.5	6.2	84	Sun/Cloud	
17-Apr-11	Sun.	6	6.7	82	Sun	
18-Apr-11	Mon.	6.6	7.5	80	Sun	
19-Apr-11	Tues.	-	-	-	-	
20-Apr-11	Wed.	8.9	7.2	78	Cloud/Rain	
21-Apr-11	Thurs.					
22-Apr-11	Fri.					
23-Apr-11	Sat.	7.9	11	77	Sun	DFO
24-Apr-11	Sun.	9.4	8.9	76	Cloud/Rain	DFO
25-Apr-11	Mon.	8.4	6.9	75	Sun/Cloud	
26-Apr-11	Tues.	8.8	7.9	75	Cloud	
27-Apr-11	Wed.	9.6	9.5	80	2|3	
28-Apr-11	Thurs.				Cloud/Rain	
29-Apr-11	Fri.					
30-Apr-11	Sat.	8.9	8.7	80	Sun	DFO
1-May-11	Sun.	10.4	10.7	78	Cloud	DFO
2-May-11	Mon.	11.1	9.6	78	Sun/Cloud	
3-May-11	Tues.	9.9	11	78	Cloud	
4-May-11	Wed.	11.1	12.5	77	Sun/Cloud	
5-May-11	Thurs.	11	12	76	Sun	
6-May-11	Fri.	11.5	12	75	Cloud	
7-May-11	Sat.	9.3	9	80	Cloud/Rain	
8-May-11	Sun.	11.9	13.7	82	Sun/Cloud	
9-May-11	Mon.	11.8	14	80	Sun/Cloud	
10-May-11	Tues.	12.2	12	78	Cloud/Rain	
11-May-11	Wed.	10	10	74	Sun	DFO
12-May-11	Thurs.	10	12	74	Sun	DFO
13-May-11	Fri.	11.3	10.4	77	Cloud	
14-May-11	Sat.	10.9	10.6	74	Cloud	
15-May-11	Sun.	11.7	11.9	80	Cloud	
16-May-11	Mon.	11.2	10.9	84	Cloud	
17-May-11	Tues.	10.4	9	84	Sun	
18-May-11	Wed.	12.5	12	77	Cloud	DFO
19-May-11	Thurs.	12.5	13.5	77	Sun	DFO

Date	Day	Water Temp (C°)	Air Temp (C°)	Water Level (cm)	Weather	Comments
20-May-11	Fri.	12.1	13	76	Sun	
21-May-11	Sat.	13.1	-	77	Cloud/Rain	
22-May-11	Sun.	12.6	11	75	Cloud	
23-May-11	Mon.	12	10	73.25	Sun/Cloud/Rain	
24-May-11	Tues.	12.9	13.5	74	Sun	
25-May-11	Wed.	13.1	12	70.5	Sun/Cloud/Rain	
26-May-11	Thurs.	13	13	70	Cloud	DFO
27-May-11	Fri.	12	10.5	76	Rain	DFO
28-May-11	Sat.	11.1	11	76	Sun	
29-May-11	Sun.	11	12	75	Sun	
30-May-11	Mon.	11.9	13.5	73	Cloud	
31-May-11	Tues.	15	21.1	70	Sun	
1-Jun-11	Wed.	13	15	73	Sun	
2-Jun-11	Thurs.	13	12	80	Rain	DFO
3-Jun-11	Fri.	13	15	81	Sun/Cloud	DFO
4-Jun-11	Sat.	13	11	80	Sun	
5-Jun-11	Sun.	14	13	79	Mon	
6-Jun-11	Mon.	14.1	17	79	Tue	
7-Jun-11	Tues.	14.2	15	73	Wed	
8-Jun-11	Wed.	15	18	70	Sun	
9-Jun-11	Thurs.	14	13	69	Cloud	
10-Jun-11	Fri.	14	14	69	Cloud	

Appendix B. Daily catch of Coho smolts and fry at the Black Creek fence, 2011.

Date	Total Trap Smolts	Pre-Sample Morts	CWT Releases	CWT Morts	Not CWT'd	Total Smolts Released	% CWT	Total Trap Fry Released
1-Apr-11	0	0	0	0	0	0	0%	0
2-Apr-11	0	0	0	0	0	0	0%	0
3-Apr-11	0	0	0	0	0	0	0%	0
4-Apr-11	0	0	0	0	0	0	0%	0
5-Apr-11	0	0	0	0	0	0	0%	0
6-Apr-11	0	0	0	0	0	0	0%	0
7-Apr-11	0	0	0	0	0	0	0%	0
8-Apr-11	0	0	0	0	0	0	0%	0
9-Apr-11	0	0	0	0	0	0	0%	0
10-Apr-11	0	0	0	0	0	0	0%	0
11-Apr-11	0	0	0	0	0	0	0%	0
12-Apr-11	0	0	0	0	0	0	0%	0
13-Apr-11	0	0	0	0	0	0	0%	0
14-Apr-11	10	0	0	0	0	10	0%	0
15-Apr-11	64	0	0	0	0	64	0%	1
16-Apr-11	155	0	0	0	0	155	0%	0
17-Apr-11	69	0	0	0	0	69	0%	2
18-Apr-11	34	0	0	0	0	34	0%	0
19-Apr-11	0	0	0	0	0	0	0%	0
20-Apr-11	35	0	0	0	0	35	0%	1
21-Apr-11	26	0	23	0	3	26	88%	2
22-Apr-11	48	0	0	0	48	48	0%	0
23-Apr-11	35	0	0	0	35	35	0%	10
24-Apr-11	28	0	0	0	0	28	0%	8
25-Apr-11	29	0	0	0	0	29	0%	8
26-Apr-11	39	0	0	0	0	39	0%	4
27-Apr-11	132	0	0	0	0	132	0%	3
28-Apr-11	197	2	189	0	6	195	96%	3
29-Apr-11	226	0	220	0	6	226	97%	3
30-Apr-11	234	0	0	0	234	234	0%	6
1-May-11	365	0	0	0	365	365	0%	1
2-May-11	538	0	0	0	538	538	0%	4
3-May-11	209	0	0	0	209	209	0%	0
4-May-11	253	0	0	0	253	253	0%	1
5-May-11	494	0	489	0	5	494	99%	0
6-May-11	680	2	677	0	1	678	100%	0
7-May-11	622	12	0	0	610	610	0%	14
8-May-11	2430	0	0	0	2430	2430	0%	1
9-May-11	1090	0	0	0	1090	1090	0%	3

Date	Total Trap Smolts	Pre-Sample Morts	CWT Releases	CWT Morts	Not CWT'd	Total Smolts Released	% CWT	Total Trap Fry Released
10-May-11	135	0	0	0	135	135	0%	0
11-May-11	530	0	527	0	3	530	99%	1
12-May-11	491	0	491	0	0	491	100%	0
13-May-11	538	0	0	0	538	538	0%	3
14-May-11	1625	0	0	0	1625	1625	0%	0
15-May-11	1780	0	0	0	1780	1780	0%	1
16-May-11	3037	0	0	0	3037	3037	0%	2
17-May-11	3007	1	2892	0	114	3006	96%	0
18-May-11	2154	2	1834	0	318	2152	85%	0
19-May-11	2445	0	2414	0	31	2445	99%	0
20-May-11	1000	0	0	0	1000	1000	0%	0
21-May-11	582	0	0	0	582	582	0%	1
22-May-11	267	0	0	0	267	267	0%	0
23-May-11	697	0	0	0	697	697	0%	0
24-May-11	241	0	0	0	241	241	0%	0
25-May-11	68	0	0	0	68	68	0%	1
26-May-11	12	0	0	0	12	12	0%	0
27-May-11	37	0	0	0	37	37	0%	0
28-May-11	470	0	0	0	470	470	0%	25
29-May-11	77	0	0	0	77	77	0%	29
30-May-11	122	0	0	0	122	122	0%	8
31-May-11	23	0	0	0	23	23	0%	7
1-Jun-11	47	0	0	0	47	47	0%	61
2-Jun-11	372	0	0	0	372	372	0%	100
3-Jun-11	145	0	0	0	145	145	0%	46
4-Jun-11	71	0	0	0	71	71	0%	3
5-Jun-11	42	0	0	0	42	42	0%	11
6-Jun-11	19	0	0	0	19	19	0%	13
7-Jun-11	1	0	0	0	1	1	0%	1
8-Jun-11	2	0	0	0	2	2	0%	3
9-Jun-11	1	0	0	0	1	1	0%	2
10-Jun-11	0	0	0	0	0	0	0%	1
TOTAL	**28080**	**19**	**9756**	**0**	**17710**	**28061**	**35%**	**394**

Appendix C. Daily catch of other species at the Black Creek out-migration fence, 2011.

Date	Cutthroat Trout	Sculpin	Lamprey	Stickelback	Other	*All incidental catch released
14-Apr-11	1	0	0	0		1
15-Apr-11	3	0	0	0		3
16-Apr-11	2	1	1	0		4
17-Apr-11	3	1	0	0		4
18-Apr-11	5	0	0	0		5
19-Apr-11	0	0	0	0		0
20-Apr-11	6	1	0	0		7
21-Apr-11	11	1	0	0		12
22-Apr-11	4	1	0	0		5
23-Apr-11	8	6	0	0		14
24-Apr-11	6	2	0	0		8
25-Apr-11	10	4	0	0		14
26-Apr-11	16	0	0	0		16
27-Apr-11	7	9	0	0		16
28-Apr-11	15	10	2	0		27
29-Apr-11	12	9	0	0		21
30-Apr-11	7	2	0	0		9
1-May-11	23	9	0	0		32
2-May-11	24	11	0	0		35
3-May-11	32	3	0	1		36
4-May-11	21	11	0	0		32
5-May-11	16	1	0	0		17
6-May-11	13	3	0	0		16
7-May-11	16	2	0	0		18
8-May-11	17	3	0	0		20
9-May-11	16	4	0	0		20
10-May-11	2	0	0	0		2
11-May-11	6	0	0	0	1 (rainbow)	7
12-May-11	6	0	2	0		8
13-May-11	9	0	0	0		9
14-May-11	13	4	1	0		18
15-May-11	7	0	0	0		7
16-May-11	11	0	0	0	1 (steelhead)	12
17-May-11	11	2	0	0		13
18-May-11	4	2	0	0		6
19-May-11	24	5	0	0		29
20-May-11	4	5	1	0		10
21-May-11	2	0	0	0		2

Date	Cutthroat Trout	Sculpin	Lamprey	Stickelback	Other	*All incidental catch released
22-May-11	4	0	1	1		6
23-May-11	10	6	1	0		17
24-May-11	5	16	2	0		23
25-May-11	1	2	0	0		3
26-May-11	0	0	0	0		0
27-May-11	0	0	0	0		0
28-May-11	17	11	2	0		30
29-May-11	6	14	3	0		23
30-May-11	2	0	1	0		3
31-May-11	0	4	0	0		4
1-Jun-11	1	2	0	0		3
2-Jun-11	24	13	0	0		37
3-Jun-11	3	14	1	0	1 (carp)	19
4-Jun-11	1	16	0	0		17
5-Jun-11	3	7	0	0		10
6-Jun-11	2	7	0	0		9
7-Jun-11	0	5	0	0		5
8-Jun-11	0	1	0	0	1 (crayfish)	2
9-Jun-11	0	3	0	0		3
10-Jun-11	0	2	0	0		2
Totals	**472**	**235**	**18**	**2**	**4**	**731**

Appendix D. Individual Coho smolt length (mm), weight (g), and scale age, 2011.

Fish	Period	Scale Book	Scale Number	Length (mm)	*Weight (g)	Gilbert-Rich Age	European Age	Scale Quality
1	1	72601	1	125	20.3	22	10	
2	1	72601	2	121	18.5	22	10	
3	1	72601	3	103	11.8	0M	M0	RG
4	1	72601	4	99	10.5	22	10	
5	1	72601	5	100	10.8	22	10	
6	1	72601	6	111	14.5	22	10	
7	1	72601	7	137	26.3	22	10	
8	1	72601	8	125	20.3	33	20	
9	1	72601	9	120	18.1	22	10	
10	1	72601	10	143	29.7	22	10	
11	1	72601	11	105	12.4	22	10	
12	1	72601	12	151	34.6	33	20	
13	1	72601	13	127	21.3	22	10	
14	1	72601	14	108	13.5	22	10	
15	1	72601	15	116	16.5	0M	M0	RG
16	1	72601	16	139	27.4	0M	M0	RG
17	1	72601	17	121	18.5	22	10	
18	1	72601	18	119	17.7	22	10	
19	1	72601	19	133	24.2	33	20	
20	1	72601	20	139	27.4	33	20	
21	1	72601	21	121	18.5	0M	M0	RG
22	1	72601	22	104	12.1	22	10	
23	1	72601	23	101	11.1			MF
24	1	72601	24	135	25.2	22	10	
25	1	72601	25	135	25.2	33	20	
26	1	72602	1	115	16.1	22	10	
27	1	72602	2	120	18.1	0M	M0	RG
28	1	72602	3	122	19.0	22	10	
29	1	72602	4	137	26.3	22	10	
30	1	72602	5	135	25.2	22	10	
31	1	72602	6	129	22.2	33	20	
32	1	72602	7	126	20.8	33	20	
33	1	72602	8	129	22.2	22	10	
34	1	72602	9	129	22.2	22	10	
35	1	72602	10	115	16.1	22	10	
36	1	72602	11	125	20.3	22	10	
37	1	72602	12	118	17.3	22	10	
38	1	72602	13	125	20.3	33	20	

Fish	Period	Scale Book	Scale Number	Length (mm)	*Weight (g)	Gilbert-Rich Age	European Age	Scale Quality
39	1	72602	14	103	11.8	22	10	
40	1	72602	15	139	27.4	0M	M0	RG
41	1	72602	16	120	18.1	22	10	
42	1	72602	17	133	24.2	22	10	
43	1	72602	18	125	20.3	0M	M0	W
44	1	72602	19	112	14.9	22	10	
45	1	72602	20	131	23.2	22	10	
46	1	72602	21	130	22.7	22	10	
47	1	72602	22	105	12.4	22	10	
48	1	72602	23	120	18.1	22	10	
49	1	72602	24	110	14.2	0M	M0	RG
50	1	72602	25	111	14.5	22	10	
51	1	72603	1	100	10.8	0M	M0	RG
52	1	72603	2	140	28.0	22	10	
53	1	72603	3	147	32.1	33	20	
54	1	72603	4	131	23.2	0M	M0	RG
55	1	72603	5	99	10.5	22	10	
56	1	72603	6	121	18.5	22	10	
57	1	72603	7	125	20.3	22	10	
58	1	72603	8	118	17.3	22	10	
59	1	72603	9	118	17.3	22	10	
60	1	72603	10	122	19.0	22	10	
61	1	72603	11	130	22.7	22	10	
62	1	72603	12	130	22.7	22	10	
63	1	72603	13	115	16.1	22	10	
64	1	72603	14	138	26.9	22	10	
65	1	72603	15	120	18.1			UD
66	1	72603	16	104	12.1	22	10	
67	1	72603	17	111	14.5	22	10	
68	1	72603	18	120	18.1	22	10	
69	1	72603	19	105	12.4	22	10	
70	1	72603	20	132	23.7	33	20	
71	1	72603	21	118	17.3	22	10	
72	1	72603	22	129	22.2	22	10	
73	1	72603	23	136	25.8	22	10	
74	1	72603	24	127	21.3	33	20	
75	1	72603	25	115	16.1	22	10	
76	1	72604	1	131	23.2	22	10	
77	1	72604	2	128	21.7	22	10	
78	1	72604	3	93	8.8	22	10	

Fish	Period	Scale Book	Scale Number	Length (mm)	*Weight (g)	Gilbert-Rich Age	European Age	Scale Quality
79	1	72604	4	100	10.8	22	10	
80	1	72604	5	111	14.5	22	10	
81	1	72604	6	103	11.8	22	10	
82	1	72604	7	94	9.1	22	10	
83	1	72604	8	105	12.4	0M	M0	RG
84	1	72604	9	125	20.3	22	10	
85	1	72604	10	120	18.1	0M	M0	UF
86	1	72604	11	131	23.2	22	10	
87	1	72604	12	123	19.4	33	20	
88	1	72604	13	105	12.4	22	10	
89	1	72604	14	135	25.2	33	20	
90	1	72604	15	110	14.2	0M	M0	RG
91	1	72604	16	105	12.4	22	10	
92	1	72604	17	111	14.5	0M	M0	RG
93	1	72604	18	104	12.1	22	10	
94	1	72604	19	121	18.5			UD
95	1	72604	20	115	16.1	0M	M0	RG
96	1	72604	21	115	16.1	22	10	
97	1	72604	22	95	9.4	22	10	
98	1	72604	23	107	13.1	22	10	
99	1	72604	24	140	28.0	33	20	
100	1	72604	25	117	16.9			UD
101	1	72605	1	115	16.1	33	20	
102	1	72605	2	119	17.7	0M	M0	RG
103	1	72605	3	120	18.1	22	10	
104	1	72605	4	109	13.8	0M	M0	RG
105	1	72605	5	130	22.7	33	20	
106	1	72605	6	141	28.5	33	20	
107	1	72605	7	114	15.7	22	10	
108	1	72605	8	134	24.7	22	10	
109	1	72605	9	134	24.7	22	10	
110	1	72605	10	135	25.2	22	10	
111	1	72605	11	104	12.1	22	10	
112	1	72605	12	108	13.5	22	10	
113	1	72605	13	100	10.8	22	10	
114	1	72605	14	101	11.1	22	10	
115	1	72605	15	99	10.5	0M	M0	RG
116	1	72605	16	137	26.3	22	10	
117	1	72605	17	133	24.2	22	10	
118	1	72605	18	114	15.7	22	10	

Fish	Period	Scale Book	Scale Number	Length (mm)	*Weight (g)	Gilbert-Rich Age	European Age	Scale Quality
119	1	72605	19	111	14.5	0M	M0	RG
120	1	72605	20	136	25.8	33	20	
121	1	72605	21	112	14.9	0M	M0	RG
122	1	72605	22	134	24.7	0M	M0	RG
123	1	72605	23	130	22.7			UD
124	1	72605	24	131	23.2	22	10	
125	1	72605	25	111	14.5	22	10	
126	1	72606	1	105	12.4	22	10	
127	1	72606	2	94	9.1	22	10	
128	1	72606	3	105	12.4	22	10	
129	1	72606	4	105	12.4	22	10	
130	1	72606	5	146	31.5	33	20	
131	1	72606	6	137	26.3	22	10	
132	1	72606	7	111	14.5	22	10	
133	1	72606	8	90	8.1	0M	M0	RG
134	1	72606	9	95	9.4	22	10	
135	1	72606	10	106	12.8	0M	M0	RG
136	1	72606	11	110	14.2	22	10	
137	1	72606	12	91	8.3	22	10	
138	1	72606	13	106	12.8	22	10	
139	1	72606	14	98	10.2	0M	M0	RG
140	1	72606	15	99	10.5	22	10	
141	1	72606	16	103	11.8	22	10	
142	1	72606	17	103	11.8	0M	M0	RG
143	1	72606	18	137	26.3	33	20	
144	1	72606	19	91	8.3	22	10	
145	1	72606	20	92	8.6	0M	M0	RG
146	1	72606	21	93	8.8	22	10	
147	1	72606	22	95	9.4	22	10	
148	1	72606	23	97	9.9	22	10	
149	1	72606	24	108	13.5	0M	M0	RG
150	1	72606	25	90	8.1	0M	M0	RG
151	1	72607	1	152	35.3	44	30	
152	1	72607	2	99	10.5	22	10	
153	1	72607	3	141	28.5	0M	M0	RG
154	1	72607	4	145	30.9	33	20	
155	1	72607	5	146	31.5	33	20	
156	1	72607	6	92	8.6	22	10	
157	1	72607	7	141	28.5	33	20	
158	1	72607	8	141	28.5	33	20	

Fish	Period	Scale Book	Scale Number	Length (mm)	*Weight (g)	Gilbert-Rich Age	European Age	Scale Quality
159	1	72607	9	146	31.5	33	20	
160	1	72607	10	140	28.0	0M	M0	RG
161	1	72607	11	94	9.1	22	10	
162	1	72607	12	141	28.5	0M	M0	RG
163	2	72608	1	102	11.5	22	10	
164	2	72608	2	110	14.2	22	10	
165	2	72608	3	125	20.3	22	10	
166	2	72608	4	110	14.2	22	10	
167	2	72608	5	127	21.3	0M	M0	RG
168	2	72608	6	111	14.5	22	10	
169	2	72608	7	106	12.8	22	10	
170	2	72608	8	105	12.4	0M	M0	RG
171	2	72608	9	118	17.3	22	10	
172	2	72608	10	121	18.5	22	10	
173	2	72608	11	111	14.5	0M	M0	RG
174	2	72608	12	108	13.5	22	10	
175	2	72608	13	98	10.2			UD
176	2	72608	14	102	11.5	22	10	
177	2	72608	15	111	14.5	22	10	
178	2	72608	16	115	16.1	22	10	
179	2	72608	17	114	15.7	22	10	
180	2	72608	18	98	10.2	0M	M0	RG
181	2	72608	19	127	21.3	22	10	
182	2	72608	20	101	11.1	22	10	
183	2	72608	21	103	11.8	0M	M0	RG
184	2	72608	22	107	13.1	0M	M0	RG
185	2	72608	23	92	8.6	22	10	
186	2	72608	24	122	19.0	22	10	
187	2	72608	25	111	14.5	22	10	
188	2	72609	1	108	13.5	22	10	
189	2	72609	2	93	8.8	22	10	
190	2	72609	3	105	12.4	22	10	
191	2	72609	4	105	12.4	22	10	
192	2	72609	5	133	24.2	33	20	
193	2	72609	6	90	8.1	22	10	
194	2	72609	7	115	16.1	0M	M0	RG
195	2	72609	8	94	9.1	22	10	
196	2	72609	9	125	20.3	22	10	
197	2	72609	10	114	15.7	22	10	
198	2	72609	11	113	15.3	22	10	

Fish	Period	Scale Book	Scale Number	Length (mm)	*Weight (g)	Gilbert-Rich Age	European Age	Scale Quality
199	2	72609	12	99	10.5	22	10	
200	2	72609	13	112	14.9	0M	M0	RG
201	2	72609	14	153	35.9	33	20	
202	2	72609	15	105	12.4	22	10	
203	2	72609	16	107	13.1	22	10	
204	2	72609	17	108	13.5	22	10	
205	2	72609	18	114	15.7	22	10	
206	2	72609	19	111	14.5	22	10	
207	2	72609	20	120	18.1	22	10	
208	2	72609	21	112	14.9	22	10	
209	2	72609	22	113	15.3	0M	M0	RG
210	2	72609	23	130	22.7	33	20	
211	2	72609	24	111	14.5	22	10	
212	2	72609	25	127	21.3	33	20	
213	2	72610	1	108	13.5	22	10	
214	2	72610	2	93	8.8	22	10	
215	2	72610	3	95	9.4	22	10	
216	2	72610	4	101	11.1	22	10	
217	2	72610	5	103	11.8	22	10	
218	2	72610	6	118	17.3	22	10	
219	2	72610	7	98	10.2	22	10	
220	2	72610	8	126	20.8	22	10	
221	2	72610	9	90	8.1	0M	M0	RG
222	2	72610	10	91	8.3	0M	M0	RG
223	2	72610	11	96	9.7	22	10	
224	2	72610	12	123	19.4	22	10	
225	2	72610	13	125	20.3	22	10	
226	2	72610	14	98	10.2	22	10	
227	2	72610	15	90	8.1	22	10	
228	2	72610	16	122	19.0	22	10	
229	2	72610	17	90	8.1	0M	M0	RG
230	2	72610	18	137	26.3	0M	M0	RG
231	2	72610	19	135	25.2	0M	M0	RG
232	2	72610	20	119	17.7	0M	M0	RG
233	2	72610	21	96	9.7	22	10	
234	2	72610	22	93	8.8	22	10	
235	2	72610	23	106	12.8	22	10	
236	2	72610	24	124	19.9	22	10	
237	2	72610	25	126	20.8	22	10	
238	2	72611	1	104	12.1	22	10	

Fish	Period	Scale Book	Scale Number	Length (mm)	*Weight (g)	Gilbert-Rich Age	European Age	Scale Quality
239	2	72611	2	106	12.8	22	10	
240	2	72611	3	103	11.8	22	10	
241	2	72611	4	108	13.5	22	10	
242	2	72611	5	105	12.4	22	10	
243	2	72611	6	102	11.5	22	10	
244	2	72611	7	99	10.5	22	10	
245	2	72611	8	99	10.5	22	10	
246	2	72611	9	100	10.8	22	10	
247	2	72611	10	102	11.5	22	10	
248	2	72611	11	127	21.3	22	10	
249	2	72611	12	100	10.8	0M	M0	RG
250	2	72611	13	102	11.5	22	10	
251	2	72611	14	100	10.8	22	10	
252	2	72611	15	103	11.8	22	10	
253	2	72611	16	122	19.0	0M	M0	RG
254	2	72611	17	119	17.7	22	10	
255	2	72611	18	117	16.9	0M	M0	RG
256	2	72611	19	116	16.5	22	10	
257	2	72611	20	118	17.3	33	20	
258	2	72611	21	116	16.5	22	10	
259	2	72611	22	115	16.1	22	10	
260	2	72611	23	121	18.5	22	10	
261	2	72611	24	121	18.5	22	10	
262	2	72611	25	126	20.8	0M	M0	RG
263	2	72612	1	117	16.9	22	10	
264	2	72612	2	116	16.5	22	10	
265	2	72612	3	127	21.3	22	10	
266	2	72612	4	117	16.9	22	10	
267	2	72612	5	119	17.7	22	10	
268	2	72612	6	121	18.5	22	10	
269	2	72612	7	133	24.2	22	10	
270	2	72612	8	128	21.7	22	10	
271	2	72612	9	121	18.5	22	10	
272	2	72612	10	125	20.3	0M	M0	RG
273	2	72612	11	120	18.1	22	10	
274	2	72612	12	127	21.3	0M	M0	RG
275	2	72612	13	121	18.5	0M	M0	RG
276	2	72612	14	126	20.8	0M	M0	RG
277	2	72612	15	124	19.9	22	10	
278	3	72613	1	105	12.4	22	10	

Fish	Period	Scale Book	Scale Number	Length (mm)	*Weight (g)	Gilbert-Rich Age	European Age	Scale Quality
279	3	72613	2	93	8.8	22	10	
280	3	72613	3	94	9.1	22	10	
281	3	72613	4	95	9.4	22	10	
282	3	72613	5	95	9.4	0M	M0	RG
283	3	72613	6	97	9.9	0M	M0	RG
284	3	72613	7	111	14.5	22	10	
285	3	72613	8	90	8.1	22	10	
286	3	72613	9	100	10.8	22	10	
287	3	72613	10	102	11.5	22	10	
288	3	72613	11	112	14.9	22	10	
289	3	72613	12	104	12.1	22	10	
290	3	72613	13	112	14.9	22	10	
291	3	72613	14	94	9.1	22	10	
292	3	72613	15	100	10.8	22	10	
293	3	72613	16	115	16.1	22	10	
294	3	72613	17	103	11.8	0M	M0	RG
295	3	72613	18	110	14.2	22	10	
296	3	72613	19	93	8.8	22	10	
297	3	72613	20	106	12.8	22	10	
298	3	72613	21	117	16.9	22	10	
299	3	72613	22	90	8.1	22	10	
300	3	72613	23	130	22.7	22	10	
301	3	72613	24	127	21.3	0M	M0	RG
302	3	72613	25	122	19.0	22	10	
303	3	72614	1	110	14.2	0M	M0	RG
304	3	72614	2	90	8.1	22	10	
305	3	72614	3	105	12.4	22	10	
306	3	72614	4	110	14.2	22	10	
307	3	72614	5	95	9.4	22	10	
308	3	72614	6	103	11.8	22	10	
309	3	72614	7	105	12.4	22	10	
310	3	72614	8	97	9.9	0M	M0	RG
311	3	72614	9	105	12.4	22	10	
312	3	72614	10	115	16.1	22	10	
313	3	72614	11	92	8.6	0M	M0	RG
314	3	72614	12	100	10.8	0M	M0	RG
315	3	72614	13	96	9.7	22	10	
316	3	72614	14	99	10.5	22	10	
317	3	72614	15	106	12.8	22	10	
318	3	72614	16	104	12.1	22	10	

Fish	Period	Scale Book	Scale Number	Length (mm)	*Weight (g)	Gilbert-Rich Age	European Age	Scale Quality
319	3	72614	17	115	16.1	22	10	
320	3	72614	18	98	10.2	22	10	
321	3	72614	19	101	11.1	22	10	
322	3	72614	20	95	9.4	22	10	
323	3	72614	21	90	8.1			UD
324	3	72614	22	100	10.8	22	10	
325	3	72614	23	90	8.1	22	10	
326	3	72614	24	103	11.8	0M	M0	RG
327	3	72614	25	105	12.4	22	10	
328	3	72615	1	100	10.8	22	10	
329	3	72615	2	96	9.7	22	10	
330	3	72615	3	105	12.4	22	10	
331	3	72615	4	110	14.2			UD
332	3	72615	5	110	14.2	0M	M0	RG
333	3	72615	6	100	10.8	0M	M0	RG
334	3	72615	7	102	11.5	0M	M0	RG
335	3	72615	8	106	12.8	0M	M0	RG
336	3	72615	9	110	14.2	22	10	
337	3	72615	10	125	20.3	0M	M0	RG
338	3	72615	11	110	14.2	22	10	
339	3	72615	12	106	12.8	22	10	
340	3	72615	13	120	18.1	22	10	
341	3	72615	14	115	16.1	33	20	
342	3	72615	15	106	12.8	22	10	
343	3	72615	16	105	12.4	22	10	
344	3	72615	17	124	19.9	22	10	
345	3	72615	18	110	14.2	0M	M0	RG
346	3	72615	19	112	14.9	0M	M0	RG
347	3	72615	20	115	16.1	0M	M0	RG
348	3	72615	21	105	12.4	22	10	
349	3	72615	22	106	12.8	22	10	
350	3	72615	23	106	12.8	22	10	
351	3	72615	24	104	12.1	22	10	
352	3	72615	25	110	14.2	22	10	

*Calculated using weight-Length relationship

Appendix E. Individual Coho smolt length (mm), weight (g), and condition factor (KC), 2011 by period.

Period 1				
Date	Fish	Length	Weight	KC
17-Apr-11	1	116	18.1	1.16
17-Apr-11	2	113	20	1.39
17-Apr-11	3	110	16.6	1.25
17-Apr-11	4	111	16.5	1.21
17-Apr-11	5	116	17.3	1.11
17-Apr-11	6	118	18.5	1.13
17-Apr-11	7	120	19	1.10
17-Apr-11	8	123	21.3	1.14
17-Apr-11	9	130	25.7	1.17
17-Apr-11	10	119	19	1.13
17-Apr-11	11	135	30.8	1.25
17-Apr-11	12	125	23.8	1.22
17-Apr-11	13	116	19.1	1.22
17-Apr-11	14	118	17.4	1.06
17-Apr-11	15	111	15.7	1.15
17-Apr-11	16	110	15.1	1.13
17-Apr-11	17	110	15.2	1.14
17-Apr-11	18	140	32.1	1.17
17-Apr-11	19	115	17	1.12
17-Apr-11	20	103	13.7	1.25
17-Apr-11	21	115	16.4	1.08
17-Apr-11	22	116	18.7	1.20
17-Apr-11	23	144	33.2	1.11
17-Apr-11	24	112	16.7	1.19
17-Apr-11	25	98	11.1	1.18
17-Apr-11	26	110	15.4	1.16
17-Apr-11	27	130	25.5	1.16
17-Apr-11	28	125	21.7	1.11
17-Apr-11	29	116	18.1	1.16
17-Apr-11	30	120	19.1	1.11
17-Apr-11	31	114	15.3	1.03
17-Apr-11	32	115	17	1.12
17-Apr-11	33	122	19	1.05
17-Apr-11	34	109	15.1	1.17
17-Apr-11	35	104	13.3	1.18
30-Apr-11	36	135	22.1	0.90
30-Apr-11	37	140	27.5	1.00
30-Apr-11	38	143	28.1	0.96
30-Apr-11	39	142	25.1	0.88
30-Apr-11	40	145	29.4	0.96

Period 1				
Date	Fish	Length	Weight	KC
30-Apr-11	41	135	24	0.98
30-Apr-11	42	135	26.1	1.06
30-Apr-11	43	133	23.4	0.99
30-Apr-11	44	128	21	1.00
30-Apr-11	45	120	16	0.93
30-Apr-11	46	118	14.5	0.88
30-Apr-11	47	135	25.7	1.04
30-Apr-11	48	124	18.1	0.95
30-Apr-11	49	125	19.9	1.02
30-Apr-11	50	125	19.4	0.99
30-Apr-11	51	113	13.1	0.91
30-Apr-11	52	125	18.4	0.94
30-Apr-11	53	98	12	1.27
30-Apr-11	54	135	23.4	0.95
30-Apr-11	55	120	16.4	0.95
30-Apr-11	56	121	21.7	1.22
30-Apr-11	57	130	20.5	0.93
30-Apr-11	58	126	20	1.00
30-Apr-11	59	126	21	1.05
30-Apr-11	60	126	20.5	1.02
30-Apr-11	61	115	16.6	1.09
30-Apr-11	62	110	13.7	1.03
30-Apr-11	63	116	17	1.09
30-Apr-11	64	105	12	1.04
30-Apr-11	65	130	22	1.00
30-Apr-11	66	114	13.9	0.94
30-Apr-11	67	112	13.6	0.97
30-Apr-11	68	122	18.7	1.03
30-Apr-11	69	118	16.1	0.98
30-Apr-11	70	133	22.1	0.94
30-Apr-11	71	135	24	0.98
30-Apr-11	72	130	21	0.96
30-Apr-11	73	140	27.6	1.01
30-Apr-11	74	130	19.6	0.89
30-Apr-11	75	130	22.2	1.01
30-Apr-11	76	140	24.9	0.91
30-Apr-11	77	130	19.8	0.90
30-Apr-11	78	105	12.5	1.08
30-Apr-11	79	119	17.4	1.03
30-Apr-11	80	110	19	1.43

Period 1				
Date	Fish	Length	Weight	KC
30-Apr-11	81	105	12.2	1.05
30-Apr-11	82	132	22	0.96
30-Apr-11	83	120	18.1	1.05
30-Apr-11	84	115	15.4	1.01
30-Apr-11	85	130	22.1	1.01
30-Apr-11	86	145	31.1	1.02
30-Apr-11	87	138	24.1	0.92
30-Apr-11	88	140	25.6	0.93
30-Apr-11	89	130	19.1	0.87
30-Apr-11	90	110	12.1	0.91
30-Apr-11	91	128	21	1.00
30-Apr-11	92	132	22.3	0.97
30-Apr-11	93	131	22	0.98
30-Apr-11	94	106	14.1	1.18
30-Apr-11	95	116	15	0.96
30-Apr-11	96	120	19.1	1.11
30-Apr-11	97	121	20.1	1.13
30-Apr-11	98	132	23.1	1.00
30-Apr-11	99	105	11	0.95
30-Apr-11	100	113	12.5	0.87
30-Apr-11	101	108	12	0.95
30-Apr-11	102	142	23.8	0.83
30-Apr-11	103	133	22	0.94
30-Apr-11	104	121	19.8	1.12
30-Apr-11	105	125	20.1	1.03
01-May-11	106	124	18.9	0.99
01-May-11	107	128	21.9	1.04
01-May-11	108	101	11.6	1.13
01-May-11	109	112	14.7	1.05
01-May-11	110	131	22.1	0.98
01-May-11	111	118	18.7	1.14
01-May-11	112	110	14.4	1.08
01-May-11	113	130	22.4	1.02
01-May-11	114	120	17.8	1.03
01-May-11	115	131	13.1	0.58
01-May-11	116	120	17.9	1.04
01-May-11	117	115	14.6	0.96
01-May-11	118	115	15	0.99
01-May-11	119	120	18.9	1.09
01-May-11	120	100	10	1.00
01-May-11	121	125	19.8	1.01
01-May-11	122	132	24.6	1.07

Period 1				
Date	Fish	Length	Weight	KC
01-May-11	123	110	14.3	1.07
01-May-11	124	120	17.6	1.02
01-May-11	125	131	23.3	1.04
01-May-11	126	125	21.8	1.12
01-May-11	127	115	18	1.18
01-May-11	128	125	21.1	1.08
01-May-11	129	105	12.2	1.05
01-May-11	130	118	20	1.22
01-May-11	131	105	12.4	1.07
01-May-11	132	110	15.4	1.16
01-May-11	133	115	15.8	1.04
01-May-11	134	105	11.3	0.98
01-May-11	135	91	8	1.06
01-May-11	136	108	12.6	1.00
01-May-11	137	115	17.1	1.12
01-May-11	138	106	14	1.18
01-May-11	139	125	22.2	1.14
01-May-11	140	120	16.5	0.95
01-May-11	141	135	25.7	1.04
01-May-11	142	115	16	1.05
01-May-11	143	130	23	1.05
01-May-11	144	115	15.1	0.99
01-May-11	145	120	17.6	1.02
01-May-11	146	110	14.9	1.12
01-May-11	147	135	24.1	0.98
01-May-11	148	115	16.3	1.07
01-May-11	149	120	18.2	1.05
01-May-11	150	118	18.2	1.11
01-May-11	151	130	23.8	1.08
01-May-11	152	125	19	0.97
01-May-11	153	128	21.5	1.03
01-May-11	154	110	13.2	0.99
01-May-11	155	131	22.9	1.02
01-May-11	156	115	14.6	0.96
01-May-11	157	106	13	1.09
01-May-11	158	115	16	1.05
01-May-11	159	130	12.3	0.56
01-May-11	160	120	19.7	1.14
01-May-11	161	110	13.3	1.00
01-May-11	162	122	19.9	1.10
01-May-11	163	115	18.4	1.21
01-May-11	164	135	25.5	1.04

Period 1				
Date	Fish	Length	Weight	KC
01-May-11	165	128	20.1	0.96
01-May-11	166	118	18	1.10
01-May-11	167	131	21.8	0.97
01-May-11	168	140	27.3	0.99
01-May-11	169	142	30.2	1.05
01-May-11	170	122	20.2	1.11
01-May-11	171	112	15	1.07
01-May-11	172	125	12.2	0.62
01-May-11	173	120	17.5	1.01
01-May-11	174	110	13.3	1.00
01-May-11	175	110	13.3	1.00
01-May-11	176	110	13.6	1.02
01-May-11	177	105	12.6	1.09
01-May-11	178	125	18.1	0.93
01-May-11	179	115	13.2	0.87
01-May-11	180	136	25.5	1.01
01-May-11	181	120	17.5	1.01
01-May-11	182	122	21.2	1.17
01-May-11	183	115	16.2	1.07
01-May-11	184	135	25.1	1.02
01-May-11	185	95	9.2	1.07
01-May-11	186	118	16.7	1.02
01-May-11	187	120	18.4	1.06
01-May-11	188	132	23.4	1.02
01-May-11	189	110	14.5	1.09
01-May-11	190	120	17	0.98
01-May-11	191	106	11.5	0.97
01-May-11	192	105	12.6	1.09
01-May-11	193	120	15.7	0.91
01-May-11	194	128	20.2	0.96
01-May-11	195	135	24.6	1.00
01-May-11	196	145	32	1.05
01-May-11	197	115	13.9	0.91
01-May-11	198	115	16.5	1.08
01-May-11	199	135	23.5	0.96
01-May-11	200	125	19.7	1.01
01-May-11	201	120	18.5	1.07
01-May-11	202	125	19.6	1.00
01-May-11	203	105	9.9	0.86
01-May-11	204	102	9.8	0.92
01-May-11	205	120	18.4	1.06
01-May-11	206	121	19.4	1.10

Period 1				
Date	Fish	Length	Weight	KC
01-May-11	207	104	12	1.07
01-May-11	208	125	20.5	1.05
01-May-11	209	135	28	1.14
01-May-11	210	105	12.8	1.11
02-May-11	211	125	18.7	0.96
02-May-11	212	121	18.7	1.06
02-May-11	213	103	10.4	0.95
02-May-11	214	99	10.3	1.06
02-May-11	215	100	10.3	1.03
02-May-11	216	111	13.4	0.98
02-May-11	217	137	23.9	0.93
02-May-11	218	125	19.3	0.99
02-May-11	219	120	17.4	1.01
02-May-11	220	143	29.7	1.02
02-May-11	221	105	12.2	1.05
02-May-11	222	151	33.1	0.96
02-May-11	223	127	20.6	1.01
02-May-11	224	108	12.7	1.01
02-May-11	225	116	15.8	1.01
02-May-11	226	139	27.8	1.04
02-May-11	227	121	18.1	1.02
02-May-11	228	119	15.4	0.91
02-May-11	229	133	23	0.98
02-May-11	230	139	28.1	1.05
02-May-11	231	121	17.8	1.00
02-May-11	232	88	7.2	1.06
02-May-11	233	101	11.5	1.12
02-May-11	234	101	11	1.07
02-May-11	235	135	25.6	1.04
02-May-11	236	161	40.1	0.96
02-May-11	237	120	17.5	1.01
02-May-11	238	145	31.3	1.03
02-May-11	239	121	18.4	1.04
02-May-11	240	131	24.1	1.07
02-May-11	241	118	17.8	1.08
02-May-11	242	130	21	0.96
02-May-11	243	121	18.5	1.04
02-May-11	244	121	18.8	1.06
02-May-11	245	105	13.3	1.15
02-May-11	246	125	18.5	0.95
02-May-11	247	122	18.2	1.00
02-May-11	248	125	20.1	1.03

Period 1				
Date	Fish	Length	Weight	KC
02-May-11	249	95	8.8	1.03
02-May-11	250	110	13.1	0.98
02-May-11	251	125	18.8	0.96
02-May-11	252	128	20.6	0.98
02-May-11	253	100	11	1.10
02-May-11	254	110	12.7	0.95
02-May-11	255	130	19.9	0.91
02-May-11	256	98	8.6	0.91
02-May-11	257	118	17	1.03
02-May-11	258	108	12.8	1.02
02-May-11	259	115	16.1	1.06
02-May-11	260	110	15	1.13
02-May-11	261	105	11.5	0.99
02-May-11	262	115	14.4	0.95
02-May-11	263	145	29.7	0.97
02-May-11	264	140	29	1.06
02-May-11	265	145	31.7	1.04
02-May-11	266	121	21	1.19
02-May-11	267	145	28	0.92
02-May-11	268	118	17.1	1.04
02-May-11	269	125	19	0.97
02-May-11	270	135	24.1	0.98
02-May-11	271	135	23.6	0.96
02-May-11	272	121	18.3	1.03
02-May-11	273	125	20.3	1.04
02-May-11	274	125	20.4	1.04
02-May-11	275	110	12.7	0.95
02-May-11	276	135	24.1	0.98
02-May-11	277	113	14.1	0.98
02-May-11	278	121	19.6	1.11
02-May-11	279	110	16.4	1.23
02-May-11	280	110	13.9	1.04
02-May-11	281	110	12.3	0.92
02-May-11	282	100	9.3	0.93
02-May-11	283	105	10.7	0.92
02-May-11	284	152	38.7	1.10
02-May-11	285	141	28.3	1.01
02-May-11	286	128	24	1.14
02-May-11	287	120	18.9	1.09
02-May-11	288	120	16.7	0.97
02-May-11	289	130	21	0.96
02-May-11	290	118	15.2	0.93

Period 1				
Date	Fish	Length	Weight	KC
02-May-11	291	121	17.5	0.99
02-May-11	292	125	18.8	0.96
02-May-11	293	120	17.3	1.00
02-May-11	294	131	24	1.07
02-May-11	295	125	22.1	1.13
02-May-11	296	125	19.8	1.01
02-May-11	297	125	19.2	0.98
02-May-11	298	121	18.6	1.05
02-May-11	299	105	12.3	1.06
02-May-11	300	121	18.7	1.06
02-May-11	301	115	16.8	1.10
02-May-11	302	95	10.2	1.19
02-May-11	303	128	19.7	0.94
02-May-11	304	125	21.6	1.11
02-May-11	305	121	18.8	1.06
02-May-11	306	100	10.1	1.01
02-May-11	307	100	9.8	0.98
02-May-11	308	108	12	0.95
02-May-11	309	131	22.8	1.01
02-May-11	310	140	28	1.02
02-May-11	311	125	20.3	1.04
02-May-11	312	115	16	1.05
02-May-11	313	115	16.2	1.07
02-May-11	314	113	13.7	0.95
02-May-11	315	105	10.5	0.91
03-May-11	316	125	20.9	1.07
03-May-11	317	125	20.7	1.06
03-May-11	318	124	19.7	1.03
03-May-11	319	128	20.2	0.96
03-May-11	320	127	22.9	1.12
03-May-11	321	126	19.7	0.98
03-May-11	322	126	23.7	1.18
03-May-11	323	115	18.5	1.22
03-May-11	324	120	17.9	1.04
03-May-11	325	125	20.4	1.04
03-May-11	326	129	22.9	1.07
03-May-11	327	116	15.8	1.01
03-May-11	328	120	18	1.04
03-May-11	329	129	22.2	1.03
03-May-11	330	120	18.1	1.05
03-May-11	331	125	21.1	1.08
03-May-11	332	125	21.8	1.12

Period 1				
Date	Fish	Length	Weight	KC
03-May-11	333	130	24.8	1.13
03-May-11	334	118	17.7	1.08
03-May-11	335	122	18.7	1.03
03-May-11	336	117	16	1.00
03-May-11	337	122	18.8	1.04
03-May-11	338	124	19.8	1.04
03-May-11	339	118	17	1.03
03-May-11	340	116	16.2	1.04
03-May-11	341	130	22.8	1.04
03-May-11	342	130	23.6	1.07
03-May-11	343	119	16.6	0.99
03-May-11	344	126	22.5	1.12
03-May-11	345	138	25.2	0.96
03-May-11	346	130	22.5	1.02
03-May-11	347	115	16.2	1.07
03-May-11	348	126	21.2	1.06
03-May-11	349	120	16.4	0.95
03-May-11	350	113	15.9	1.10
03-May-11	351	119	17.6	1.04
03-May-11	352	114	14.7	0.99
03-May-11	353	118	17.5	1.07
03-May-11	354	131	25.8	1.15
03-May-11	355	124	19.9	1.04
03-May-11	356	120	19.3	1.12
03-May-11	357	125	19.7	1.01
03-May-11	358	121	20	1.13
03-May-11	359	110	14.1	1.06
03-May-11	360	129	22.9	1.07
03-May-11	361	111	15.3	1.12
03-May-11	362	129	23.8	1.11
03-May-11	363	130	23.7	1.08
03-May-11	364	116	16.4	1.05
03-May-11	365	128	20.9	1.00
03-May-11	366	130	27.7	1.26
03-May-11	367	103	12.8	1.17
03-May-11	368	120	18.6	1.08
03-May-11	369	131	24.5	1.09
03-May-11	370	128	21.4	1.02
03-May-11	371	133	17.1	0.73
03-May-11	372	129	21.9	1.02
03-May-11	373	111	15	1.10
03-May-11	374	125	20.3	1.04

Period 1				
Date	Fish	Length	Weight	KC
03-May-11	375	102	11.3	1.06
03-May-11	376	135	25.3	1.03
03-May-11	377	125	20	1.02
03-May-11	378	124	20.5	1.08
03-May-11	379	120	19.8	1.15
03-May-11	380	124	19.3	1.01
03-May-11	381	115	15.4	1.01
03-May-11	382	125	21.7	1.11
03-May-11	383	135	26.5	1.08
03-May-11	384	130	24.5	1.12
03-May-11	385	118	17.9	1.09
03-May-11	386	129	20.8	0.97
03-May-11	387	130	23.3	1.06
03-May-11	388	130	23.3	1.06
03-May-11	389	105	13.3	1.15
03-May-11	390	130	21.6	0.98
03-May-11	391	104	12.2	1.08
03-May-11	392	125	21.3	1.09
03-May-11	393	105	13	1.12
03-May-11	394	110	14.3	1.07
03-May-11	395	130	24	1.09
03-May-11	396	96	9.7	1.10
03-May-11	397	110	14.3	1.07
03-May-11	398	125	20.7	1.06
03-May-11	399	145	32.8	1.08
03-May-11	400	120	18.1	1.05
03-May-11	401	110	14.3	1.07
03-May-11	402	104	12.6	1.12
03-May-11	403	121	18.4	1.04
03-May-11	404	128	22.3	1.06
03-May-11	405	125	19.9	1.02
03-May-11	406	120	18.1	1.05
03-May-11	407	110	14.3	1.07
03-May-11	408	120	17.7	1.02
03-May-11	409	120	18.3	1.06
03-May-11	410	106	12.4	1.04
03-May-11	411	106	13.3	1.12
03-May-11	412	135	25	1.02
03-May-11	413	103	12	1.10
03-May-11	414	110	13	0.98
03-May-11	415	125	20.4	1.04
03-May-11	416	131	22.3	0.99

Period 1				
Date	Fish	Length	Weight	KC
03-May-11	417	135	27.6	1.12
03-May-11	418	115	17.1	1.12
03-May-11	419	120	17.4	1.01
03-May-11	420	130	20.7	0.94
04-May-11	421	111	15.1	1.10
04-May-11	422	117	17.1	1.07
04-May-11	423	124	19.4	1.02
04-May-11	424	125	20.4	1.04
04-May-11	425	116	19.4	1.24
04-May-11	426	109	14.9	1.15
04-May-11	427	117	16.5	1.03
04-May-11	428	121	19.3	1.09
04-May-11	429	115	17.6	1.16
04-May-11	430	104	11.2	1.00
04-May-11	431	95	9.6	1.12
04-May-11	432	126	21.7	1.08
04-May-11	433	125	22.9	1.17
04-May-11	434	129	23.2	1.08
04-May-11	435	113	15.4	1.07
04-May-11	436	116	17.5	1.12
04-May-11	437	110	13.5	1.01
04-May-11	438	110	14.4	1.08
04-May-11	439	125	21.8	1.12
04-May-11	440	111	14.6	1.07
04-May-11	441	129	25.6	1.19
04-May-11	442	131	24.4	1.09
04-May-11	443	125	20.7	1.06
04-May-11	444	132	24.4	1.06
04-May-11	445	126	21.3	1.06
04-May-11	446	111	14	1.02
04-May-11	447	124	20	1.05
04-May-11	448	124	22	1.15
04-May-11	449	117	17.9	1.12
04-May-11	450	124	18.4	0.97
04-May-11	451	105	13.4	1.16
04-May-11	452	111	14.9	1.09
04-May-11	453	122	19.8	1.09
04-May-11	454	109	13.3	1.03
04-May-11	455	121	19.5	1.10
04-May-11	456	125	21.8	1.12
04-May-11	457	133	25.9	1.10
04-May-11	458	120	18.4	1.06

Period 1				
Date	Fish	Length	Weight	KC
04-May-11	459	115	16.6	1.09
04-May-11	460	126	22.8	1.14
04-May-11	461	121	19	1.07
04-May-11	462	119	17.5	1.04
04-May-11	463	115	16.2	1.07
04-May-11	464	116	18.2	1.17
04-May-11	465	134	25.7	1.07
04-May-11	466	129	22.9	1.07
04-May-11	467	125	20.2	1.03
04-May-11	468	121	19.2	1.08
04-May-11	469	135	25.7	1.04
04-May-11	470	116	16.7	1.07
04-May-11	471	133	24.1	1.02
04-May-11	472	129	22.5	1.05
04-May-11	473	125	22.4	1.15
04-May-11	474	97	10.2	1.12
04-May-11	475	123	19.3	1.04
04-May-11	476	101	11.1	1.08
04-May-11	477	109	13.6	1.05
04-May-11	478	106	12.1	1.02
04-May-11	479	95	9.1	1.06
04-May-11	480	99	9.8	1.01
04-May-11	481	109	13.9	1.07
04-May-11	482	125	21	1.08
04-May-11	483	125	24.2	1.24
04-May-11	484	120	19.1	1.11
04-May-11	485	128	22	1.05
04-May-11	486	130	24.3	1.11
04-May-11	487	125	20.6	1.05
04-May-11	488	110	14.9	1.12
04-May-11	489	129	22.6	1.05
04-May-11	490	125	19.8	1.01
04-May-11	491	109	14	1.08
04-May-11	492	99	9.9	1.02
04-May-11	493	99	11	1.13
04-May-11	494	99	11.2	1.15
04-May-11	495	101	11.8	1.15
04-May-11	496	120	19.1	1.11
04-May-11	497	115	16.5	1.08
04-May-11	498	125	21.8	1.12
04-May-11	499	100	11.2	1.12
04-May-11	500	113	15.6	1.08

Period 1				
Date	**Fish**	**Length**	**Weight**	**KC**
04-May-11	501	128	22	1.05
04-May-11	502	98	10.4	1.10
04-May-11	503	132	25.5	1.11
04-May-11	504	105	12.6	1.09
04-May-11	505	109	13	1.00
04-May-11	506	123	19.7	1.06
04-May-11	507	120	19	1.10
04-May-11	508	138	28.3	1.08
04-May-11	509	136	28.1	1.12
04-May-11	510	120	19.2	1.11
04-May-11	511	116	16	1.03
04-May-11	512	102	11.8	1.11
04-May-11	513	118	17	1.03
04-May-11	514	126	21.6	1.08
04-May-11	515	112	14.9	1.06
04-May-11	516	101	11.1	1.08
04-May-11	517	120	17.6	1.02
04-May-11	518	131	24.4	1.09
04-May-11	519	123	20.9	1.12
04-May-11	520	121	17.5	0.99
04-May-11	521	131	22.8	1.01
04-May-11	522	115	16.4	1.08
04-May-11	523	101	11.1	1.08
04-May-11	524	117	17.9	1.12
04-May-11	525	118	18.1	1.10
Average		**120**	**18.6**	**1.05**
Min		**88**	**7.2**	**0.56**
Max		**161**	**40.1**	**1.43**
SD		**11**	**5.1**	**0.09**

Period 2				
Date	**Fish**	**Length**	**Weight**	**KC**
08-May-11	526	115	17.1	1.12
08-May-11	527	101	11.1	1.08
08-May-11	528	90	7.6	1.04
08-May-11	529	115	15.1	0.99
08-May-11	530	120	18.2	1.05
08-May-11	531	126	20.8	1.04
08-May-11	532	115	17.8	1.17
08-May-11	533	125	21.2	1.09
08-May-11	534	126	22	1.10
08-May-11	535	116	16.2	1.04
08-May-11	536	106	12.9	1.08
08-May-11	537	100	10.8	1.08
08-May-11	538	118	16.2	0.99
08-May-11	539	123	18	0.97
08-May-11	540	125	19.5	1.00
08-May-11	541	110	13.2	0.99
08-May-11	542	95	8.6	1.00
08-May-11	543	106	13	1.09
08-May-11	544	93	8.3	1.03
08-May-11	545	110	14.2	1.07
08-May-11	546	99	9.8	1.01
08-May-11	547	90	7.3	1.00
08-May-11	548	104	11	0.98
08-May-11	549	128	21.8	1.04
08-May-11	550	112	15.2	1.08
08-May-11	551	108	14	1.11
08-May-11	552	120	17.2	1.00
08-May-11	553	104	11.2	1.00
08-May-11	554	107	13	1.06
08-May-11	555	111	15.3	1.12
08-May-11	556	114	15	1.01
08-May-11	557	105	13.2	1.14
08-May-11	558	120	17.8	1.03
08-May-11	559	115	17.9	1.18
08-May-11	560	130	22.6	1.03
08-May-11	561	123	18.7	1.00
08-May-11	562	107	12.7	1.04
08-May-11	563	110	12.9	0.97
08-May-11	564	96	9.5	1.07
08-May-11	565	116	15.1	0.97
08-May-11	566	126	21.2	1.06
08-May-11	567	119	17.1	1.01
08-May-11	568	115	15.1	0.99
08-May-11	569	108	11.7	0.93
08-May-11	570	131	24.6	1.09

Period 2				
Date	Fish	Length	Weight	KC
08-May-11	571	103	12	1.10
08-May-11	572	115	15.5	1.02
08-May-11	573	117	15.2	0.95
08-May-11	574	99	10.5	1.08
08-May-11	575	115	17	1.12
08-May-11	576	97	9.9	1.08
08-May-11	577	120	20.2	1.17
08-May-11	578	101	11.5	1.12
08-May-11	579	125	20.4	1.04
08-May-11	580	113	14.6	1.01
08-May-11	581	130	20	0.91
08-May-11	582	96	10.5	1.19
08-May-11	583	114	15.2	1.03
08-May-11	584	97	10.1	1.11
08-May-11	585	97	9.8	1.07
08-May-11	586	109	14.6	1.13
08-May-11	587	128	21.5	1.03
08-May-11	588	95	9.9	1.15
08-May-11	589	98	8.8	0.93
08-May-11	590	105	12.6	1.09
08-May-11	591	114	14.5	0.98
08-May-11	592	113	15.3	1.06
08-May-11	593	99	10.3	1.06
08-May-11	594	104	11	0.98
08-May-11	595	109	13	1.00
08-May-11	596	111	14.5	1.06
08-May-11	597	131	23.1	1.03
08-May-11	598	107	12.7	1.04
08-May-11	599	115	16.1	1.06
08-May-11	600	114	16.1	1.09
08-May-11	601	116	16.9	1.08
08-May-11	602	97	9.7	1.06
08-May-11	603	115	15.7	1.03
08-May-11	604	105	13	1.12
08-May-11	605	106	11.8	0.99
08-May-11	606	107	12.4	1.01
08-May-11	607	99	10.3	1.06
08-May-11	608	125	19.3	0.99
08-May-11	609	125	17.4	0.89
08-May-11	610	116	15.3	0.98
08-May-11	611	122	21.7	1.20
08-May-11	612	121	19.2	1.08

Period 2				
Date	Fish	Length	Weight	KC
08-May-11	613	111	15.2	1.11
08-May-11	614	127	22.7	1.11
08-May-11	615	126	20.3	1.01
08-May-11	616	102	11.1	1.05
08-May-11	617	110	13.7	1.03
08-May-11	618	102	12.1	1.14
08-May-11	619	112	15.6	1.11
08-May-11	620	119	17.3	1.03
08-May-11	621	97	9.6	1.05
08-May-11	622	112	15.1	1.07
08-May-11	623	115	15.7	1.03
08-May-11	624	102	12.4	1.17
08-May-11	625	116	16.1	1.03
08-May-11	626	117	16.5	1.03
08-May-11	627	117	16.8	1.05
08-May-11	628	120	17.7	1.02
08-May-11	629	107	13.2	1.08
08-May-11	630	104	11.2	1.00
08-May-11	631	101	11.1	1.08
08-May-11	632	86	6.8	1.07
08-May-11	633	96	9.8	1.11
08-May-11	634	105	12.8	1.11
08-May-11	635	105	12.5	1.08
08-May-11	636	95	9.3	1.08
08-May-11	637	136	27.1	1.08
08-May-11	638	114	14.5	0.98
08-May-11	639	99	10.6	1.09
08-May-11	640	124	19.4	1.02
08-May-11	641	110	15.1	1.13
08-May-11	642	90	7.2	0.99
08-May-11	643	92	8.1	1.04
08-May-11	644	100	11.3	1.13
08-May-11	645	125	21.4	1.10
08-May-11	646	129	21.8	1.02
08-May-11	647	99	9.9	1.02
08-May-11	648	115	17	1.12
08-May-11	649	109	13.8	1.07
08-May-11	650	114	15.5	1.05
08-May-11	651	112	15.9	1.13
08-May-11	652	136	26.9	1.07
08-May-11	653	124	18.9	0.99
08-May-11	654	108	12.9	1.02

Period 2				
Date	Fish	Length	Weight	KC
08-May-11	655	90	7.3	1.00
08-May-11	656	130	22.2	1.01
08-May-11	657	104	11.1	0.99
08-May-11	658	101	11.6	1.13
08-May-11	659	121	18.8	1.06
08-May-11	660	130	21.9	1.00
08-May-11	661	130	22.3	1.02
08-May-11	662	137	27.2	1.06
08-May-11	663	111	13.6	0.99
08-May-11	664	122	19	1.05
08-May-11	665	131	23.9	1.06
09-May-11	666	105	13.4	1.16
09-May-11	667	113	14.4	1.00
09-May-11	668	126	21.8	1.09
09-May-11	669	123	21.4	1.15
09-May-11	670	100	9.8	0.98
09-May-11	671	110	15.9	1.19
09-May-11	672	126	21	1.05
09-May-11	673	125	21.1	1.08
09-May-11	674	115	15.9	1.05
09-May-11	675	100	10.5	1.05
09-May-11	676	100	10.4	1.04
09-May-11	677	130	25	1.14
09-May-11	678	120	19	1.10
09-May-11	679	115	15	0.99
09-May-11	680	130	21.5	0.98
09-May-11	681	96	10	1.13
09-May-11	682	105	11.8	1.02
09-May-11	683	115	13.9	0.91
09-May-11	684	120	18.3	1.06
09-May-11	685	95	9.8	1.14
09-May-11	686	85	7.1	1.16
09-May-11	687	115	17.1	1.12
09-May-11	688	115	16.2	1.07
09-May-11	689	110	14.4	1.08
09-May-11	690	90	8.5	1.17
09-May-11	691	106	12.5	1.05
09-May-11	692	112	13.5	0.96
09-May-11	693	122	18.1	1.00
09-May-11	694	105	11.8	1.02
09-May-11	695	109	13.7	1.06
09-May-11	696	97	8.9	0.98

Period 2				
Date	Fish	Length	Weight	KC
09-May-11	697	85	5.9	0.96
09-May-11	698	125	22.5	1.15
09-May-11	699	100	10.3	1.03
09-May-11	700	130	22.5	1.02
09-May-11	701	105	12.5	1.08
09-May-11	702	105	12.9	1.11
09-May-11	703	120	18.5	1.07
09-May-11	704	104	12.7	1.13
09-May-11	705	121	19.5	1.10
09-May-11	706	100	10.5	1.05
09-May-11	707	110	13.7	1.03
09-May-11	708	120	18	1.04
09-May-11	709	120	17.2	1.00
09-May-11	710	121	17.8	1.00
09-May-11	711	115	17.1	1.12
09-May-11	712	125	21.3	1.09
09-May-11	713	91	8.4	1.11
09-May-11	714	109	12.6	0.97
09-May-11	715	102	11.8	1.11
09-May-11	716	115	15.4	1.01
09-May-11	717	110	15.2	1.14
09-May-11	718	125	20.7	1.06
09-May-11	719	125	21.4	1.10
09-May-11	720	125	19.5	1.00
09-May-11	721	105	11.4	0.98
09-May-11	722	122	21.4	1.18
09-May-11	723	105	11.6	1.00
09-May-11	724	110	15.4	1.16
09-May-11	725	112	14.3	1.02
09-May-11	726	100	10.5	1.05
09-May-11	727	99	10.4	1.07
09-May-11	728	110	14.6	1.10
09-May-11	729	120	17.5	1.01
09-May-11	730	125	20.4	1.04
09-May-11	731	124	19.4	1.02
09-May-11	732	95	9.8	1.14
09-May-11	733	90	7.3	1.00
09-May-11	734	121	20.1	1.13
09-May-11	735	110	13.1	0.98
09-May-11	736	110	14.4	1.08
09-May-11	737	112	15	1.07
09-May-11	738	120	17.1	0.99

Period 2				
Date	Fish	Length	Weight	KC
09-May-11	739	110	14.4	1.08
09-May-11	740	115	15.6	1.03
09-May-11	741	115	17.4	1.14
09-May-11	742	120	17.7	1.02
09-May-11	743	99	9.4	0.97
09-May-11	744	105	12.1	1.05
09-May-11	745	101	11.2	1.09
09-May-11	746	99	10.6	1.09
09-May-11	747	110	15.4	1.16
09-May-11	748	115	17.5	1.15
09-May-11	749	125	19.4	0.99
09-May-11	750	101	10.4	1.01
09-May-11	751	95	9.7	1.13
09-May-11	752	115	16.6	1.09
09-May-11	753	110	14	1.05
09-May-11	754	125	19.2	0.98
09-May-11	755	110	13.5	1.01
09-May-11	756	95	9.3	1.08
09-May-11	757	110	15.3	1.15
09-May-11	758	105	11.4	0.98
09-May-11	759	122	20.6	1.13
09-May-11	760	120	16.6	0.96
09-May-11	761	120	18.8	1.09
09-May-11	762	115	14.7	0.97
09-May-11	763	91	8.1	1.07
09-May-11	764	109	12.8	0.99
09-May-11	765	101	11	1.07
09-May-11	766	115	15.5	1.02
09-May-11	767	95	9	1.05
09-May-11	768	100	11	1.10
09-May-11	769	104	11.2	1.00
09-May-11	770	110	14.8	1.11
10-May-11	771	104	11.2	1.00
10-May-11	772	125	21.7	1.11
10-May-11	773	99	11.2	1.15
10-May-11	774	108	13.4	1.06
10-May-11	775	106	11.6	0.97
10-May-11	776	110	14.9	1.12
10-May-11	777	107	13.3	1.09
10-May-11	778	116	17.9	1.15
10-May-11	779	102	11.8	1.11
10-May-11	780	120	19	1.10

Period 2				
Date	Fish	Length	Weight	KC
10-May-11	781	115	16.1	1.06
10-May-11	782	115	16.6	1.09
10-May-11	783	110	14.7	1.10
10-May-11	784	99	10.9	1.12
10-May-11	785	117	15.4	0.96
10-May-11	786	125	21.5	1.10
10-May-11	787	100	11.7	1.17
10-May-11	788	116	18.7	1.20
10-May-11	789	106	12	1.01
10-May-11	790	110	13.9	1.04
10-May-11	791	110	14.2	1.07
10-May-11	792	125	21.1	1.08
10-May-11	793	115	17.1	1.12
10-May-11	794	105	14.6	1.26
10-May-11	795	100	11.4	1.14
10-May-11	796	125	19.9	1.02
10-May-11	797	104	13.9	1.24
10-May-11	798	110	13.5	1.01
10-May-11	799	96	10.9	1.23
10-May-11	800	120	18	1.04
10-May-11	801	120	19.4	1.12
10-May-11	802	105	12	1.04
10-May-11	803	109	15.1	1.17
10-May-11	804	121	18.7	1.06
10-May-11	805	115	17	1.12
11-May-11	806	113	16.7	1.16
11-May-11	807	112	14.4	1.02
11-May-11	808	114	17.7	1.19
11-May-11	809	92	8.4	1.08
11-May-11	810	105	12.1	1.05
11-May-11	811	111	15	1.10
11-May-11	812	95	10.6	1.24
11-May-11	813	102	12.4	1.17
11-May-11	814	97	11.6	1.27
11-May-11	815	111	15.3	1.12
11-May-11	816	105	12.1	1.05
11-May-11	817	96	10.9	1.23
11-May-11	818	108	13.7	1.09
11-May-11	819	94	9.2	1.11
11-May-11	820	105	13	1.12
11-May-11	821	130	23	1.05
11-May-11	822	107	13.9	1.13

Period 2				
Date	**Fish**	**Length**	**Weight**	**KC**
11-May-11	823	117	16.5	1.03
11-May-11	824	103	11.7	1.07
11-May-11	825	102	11.3	1.06
11-May-11	826	98	10.2	1.08
11-May-11	827	104	13.1	1.16
11-May-11	828	120	20.9	1.21
11-May-11	829	110	15	1.13
11-May-11	830	120	20.2	1.17
11-May-11	831	110	15.5	1.16
11-May-11	832	93	9.4	1.17
11-May-11	833	115	18.3	1.20
11-May-11	834	86	7.1	1.12
11-May-11	835	99	11	1.13
11-May-11	836	99	10.5	1.08
11-May-11	837	112	16	1.14
11-May-11	838	100	11.1	1.11
11-May-11	839	115	16.6	1.09
11-May-11	840	115	17.6	1.16
11-May-11	841	115	15.8	1.04
11-May-11	842	110	13.6	1.02
11-May-11	843	112	15	1.07
11-May-11	844	110	14.2	1.07
11-May-11	845	100	10.3	1.03
11-May-11	846	95	8.3	0.97
11-May-11	847	105	11.5	0.99
11-May-11	848	138	27.5	1.05
11-May-11	849	105	11.1	0.96
11-May-11	850	105	11.2	0.97
11-May-11	851	110	13.3	1.00
11-May-11	852	105	11.4	0.98
11-May-11	853	106	12.9	1.08
11-May-11	854	109	14.1	1.09
11-May-11	855	110	12.7	0.95
11-May-11	856	95	8.4	0.98
11-May-11	857	110	13.1	0.98
11-May-11	858	100	9.3	0.93
11-May-11	859	96	10.1	1.14
11-May-11	860	95	8.4	0.98
11-May-11	861	110	13.6	1.02
11-May-11	862	100	9.8	0.98
11-May-11	863	110	12.5	0.94
11-May-11	864	124	17.6	0.92
11-May-11	865	110	13.5	1.01
11-May-11	866	99	9.6	0.99
11-May-11	867	110	12.5	0.94
11-May-11	868	110	13.3	1.00
11-May-11	869	105	11.7	1.01
11-May-11	870	110	12.1	0.91
11-May-11	871	125	18.6	0.95
11-May-11	872	130	19.8	0.90
11-May-11	873	102	10.2	0.96
11-May-11	874	96	9.1	1.03
11-May-11	875	92	8.5	1.09
14-May-11	876	110	13.3	1.00
14-May-11	877	103	11.1	1.02
14-May-11	878	92	7.9	1.01
14-May-11	879	103	11.1	1.02
14-May-11	880	107	12.1	0.99
14-May-11	881	116	17.7	1.13
14-May-11	882	106	11.4	0.96
14-May-11	883	115	15.4	1.01
14-May-11	884	125	21.1	1.08
14-May-11	885	99	10.1	1.04
14-May-11	886	121	20.8	1.17
14-May-11	887	114	15.9	1.07
14-May-11	888	117	16.4	1.02
14-May-11	889	118	19.3	1.17
14-May-11	890	94	8.5	1.02
14-May-11	891	100	11	1.10
14-May-11	892	105	11.5	0.99
14-May-11	893	114	15.8	1.07
14-May-11	894	102	11.5	1.08
14-May-11	895	109	13.2	1.02
14-May-11	896	121	17.6	0.99
14-May-11	897	111	14.7	1.07
14-May-11	898	118	16.5	1.00
14-May-11	899	107	13.8	1.13
14-May-11	900	104	9.6	0.85
14-May-11	901	112	14.6	1.04
14-May-11	902	95	9.6	1.12
14-May-11	903	123	19.4	1.04
14-May-11	904	107	13.2	1.08
14-May-11	905	104	10.6	0.94
14-May-11	906	92	7.8	1.00

Period 2				
Date	Fish	Length	Weight	KC
14-May-11	907	96	8.7	0.98
14-May-11	908	106	13.1	1.10
14-May-11	909	116	17.3	1.11
14-May-11	910	123	18.2	0.98
14-May-11	911	101	10.3	1.00
14-May-11	912	110	13	0.98
14-May-11	913	118	16.4	1.00
14-May-11	914	93	8.3	1.03
14-May-11	915	95	10	1.17
14-May-11	916	114	15.6	1.05
14-May-11	917	109	11.9	0.92
14-May-11	918	108	13	1.03
14-May-11	919	106	13.8	1.16
14-May-11	920	112	17.2	1.22
14-May-11	921	99	10	1.03
14-May-11	922	100	10.2	1.02
14-May-11	923	112	14.1	1.00
14-May-11	924	104	12.5	1.11
14-May-11	925	87	7.4	1.12
14-May-11	926	101	10.7	1.04
14-May-11	927	111	13.9	1.02
14-May-11	928	113	15.2	1.05
14-May-11	929	98	9.2	0.98
14-May-11	930	102	10.8	1.02
14-May-11	931	89	7.7	1.09
14-May-11	932	102	11.2	1.06
14-May-11	933	112	14.5	1.03
14-May-11	934	111	13.4	0.98
14-May-11	935	101	10.3	1.00
14-May-11	936	100	10.4	1.04
14-May-11	937	104	12.3	1.09
14-May-11	938	100	11.5	1.15
14-May-11	939	99	10.6	1.09
14-May-11	940	104	12.7	1.13
14-May-11	941	140	27.5	1.00
14-May-11	942	112	15.3	1.09
14-May-11	943	95	8.4	0.98
14-May-11	944	115	17.2	1.13
14-May-11	945	100	9.7	0.97
14-May-11	946	96	9.3	1.05
14-May-11	947	99	10.5	1.08
14-May-11	948	98	10	1.06

Period 2				
Date	Fish	Length	Weight	KC
14-May-11	949	112	14.4	1.02
14-May-11	950	109	12.9	1.00
14-May-11	951	105	12	1.04
14-May-11	952	105	12	1.04
14-May-11	953	105	12.2	1.05
14-May-11	954	112	13.5	0.96
14-May-11	955	120	17.9	1.04
14-May-11	956	123	19	1.02
14-May-11	957	121	17.9	1.01
14-May-11	958	108	13.5	1.07
14-May-11	959	101	10.6	1.03
14-May-11	960	99	9.9	1.02
14-May-11	961	103	11.5	1.05
14-May-11	962	97	8.3	0.91
14-May-11	963	86	6.8	1.07
14-May-11	964	97	9.1	1.00
14-May-11	965	102	10.8	1.02
14-May-11	966	91	7.6	1.01
14-May-11	967	97	9.8	1.07
14-May-11	968	88	6.9	1.01
14-May-11	969	104	11.6	1.03
14-May-11	970	115	15.2	1.00
14-May-11	971	115	16.6	1.09
14-May-11	972	85	6.4	1.04
14-May-11	973	103	11	1.01
14-May-11	974	99	10.2	1.05
14-May-11	975	124	20.5	1.08
14-May-11	976	104	12.2	1.08
14-May-11	977	93	8.3	1.03
14-May-11	978	107	12	0.98
14-May-11	979	116	15.7	1.01
14-May-11	980	104	11.5	1.02
14-May-11	981	106	12.2	1.02
14-May-11	982	110	14.2	1.07
14-May-11	983	100	9.5	0.95
14-May-11	984	92	9.1	1.17
14-May-11	985	101	10.9	1.06
14-May-11	986	103	10.7	0.98
14-May-11	987	94	8.4	1.01
14-May-11	988	115	14.8	0.97
14-May-11	989	87	6.8	1.03
14-May-11	990	102	10.5	0.99

Period 2				
Date	Fish	Length	Weight	KC
14-May-11	991	114	15.5	1.05
14-May-11	992	101	10.7	1.04
14-May-11	993	113	15.2	1.05
14-May-11	994	110	13.8	1.04
14-May-11	995	109	15.7	1.21
14-May-11	996	103	12.2	1.12
14-May-11	997	105	11.8	1.02
14-May-11	998	100	9.5	0.95
14-May-11	999	146	32.6	1.05
14-May-11	1000	105	11.1	0.96
14-May-11	1001	114	14.2	0.96
14-May-11	1002	93	7.6	0.94
14-May-11	1003	89	7.2	1.02
14-May-11	1004	99	10.2	1.05
14-May-11	1005	97	9.1	1.00
14-May-11	1006	104	11.7	1.04
14-May-11	1007	99	9.6	0.99
14-May-11	1008	108	12.2	0.97
14-May-11	1009	97	9.9	1.08
14-May-11	1010	110	14.1	1.06
14-May-11	1011	98	9.7	1.03
14-May-11	1012	125	20.5	1.05
14-May-11	1013	111	15	1.10
14-May-11	1014	101	11	1.07
14-May-11	1015	103	11.3	1.03
14-May-11	1016	116	17.1	1.10
14-May-11	1017	111	14.3	1.05
14-May-11	1018	98	9.8	1.04
14-May-11	1019	113	14.4	1.00
14-May-11	1020	110	14.1	1.06
14-May-11	1021	119	16	0.95
14-May-11	1022	105	13.2	1.14
14-May-11	1023	106	12.7	1.07
14-May-11	1024	96	9.5	1.07
14-May-11	1025	112	13.8	0.98
14-May-11	1026	120	18	1.04
14-May-11	1027	109	12.3	0.95
14-May-11	1028	103	11	1.01
14-May-11	1029	117	15.6	0.97
14-May-11	1030	95	9	1.05
14-May-11	1031	128	23	1.10
14-May-11	1032	120	18	1.04

Period 2				
Date	Fish	Length	Weight	KC
14-May-11	1033	106	12.4	1.04
14-May-11	1034	103	11	1.01
14-May-11	1035	113	14.7	1.02
14-May-11	1036	104	12.2	1.08
14-May-11	1037	95	8.6	1.00
14-May-11	1038	104	10.6	0.94
14-May-11	1039	110	13.7	1.03
14-May-11	1040	101	10.8	1.05
14-May-11	1041	93	8.1	1.01
14-May-11	1042	95	8.5	0.99
14-May-11	1043	100	10.2	1.02
14-May-11	1044	114	15.5	1.05
14-May-11	1045	104	11.2	1.00
14-May-11	1046	107	12.2	1.00
14-May-11	1047	107	11.7	0.96
14-May-11	1048	109	15.6	1.20
14-May-11	1049	109	12.9	1.00
14-May-11	1050	111	13.7	1.00
15-May-11	1051	117	19	1.19
15-May-11	1052	128	21.7	1.03
15-May-11	1053	135	23	0.93
15-May-11	1054	111	14	1.02
15-May-11	1055	105	12.1	1.05
15-May-11	1056	122	20.7	1.14
15-May-11	1057	125	20.8	1.06
15-May-11	1058	105	11.7	1.01
15-May-11	1059	115	15.5	1.02
15-May-11	1060	104	11.8	1.05
15-May-11	1061	104	10.9	0.97
15-May-11	1062	107	12.6	1.03
15-May-11	1063	126	19.7	0.98
15-May-11	1064	107	12.5	1.02
15-May-11	1065	115	14.9	0.98
15-May-11	1066	119	18.2	1.08
15-May-11	1067	113	16.4	1.14
15-May-11	1068	116	17	1.09
15-May-11	1069	100	11.3	1.13
15-May-11	1070	111	14.9	1.09
15-May-11	1071	118	15.9	0.97
15-May-11	1072	105	12.8	1.11
15-May-11	1073	97	10	1.10
15-May-11	1074	110	14.4	1.08

Period 2				
Date	**Fish**	**Length**	**Weight**	**KC**
15-May-11	1075	130	22.7	1.03
15-May-11	1076	104	12.1	1.08
15-May-11	1077	106	11.6	0.97
15-May-11	1078	110	12.9	0.97
15-May-11	1079	117	15.7	0.98
15-May-11	1080	92	8.6	1.10
15-May-11	1081	106	12.6	1.06
15-May-11	1082	112	14.3	1.02
15-May-11	1083	107	12.8	1.04
15-May-11	1084	113	14.9	1.03
15-May-11	1085	111	12.7	0.93
15-May-11	1086	120	16.3	0.94
15-May-11	1087	112	12.8	0.91
15-May-11	1088	118	18.1	1.10
15-May-11	1089	127	19.8	0.97
15-May-11	1090	107	12.7	1.04
15-May-11	1091	108	12.6	1.00
15-May-11	1092	111	14.1	1.03
15-May-11	1093	93	7.6	0.94
15-May-11	1094	112	14.5	1.03
15-May-11	1095	102	10.6	1.00
15-May-11	1096	110	12.7	0.95
15-May-11	1097	100	9.6	0.96
15-May-11	1098	97	10	1.10
15-May-11	1099	103	10.9	1.00
15-May-11	1100	101	10.8	1.05
15-May-11	1101	106	12.8	1.07
15-May-11	1102	120	20.3	1.17
15-May-11	1103	99	10.1	1.04
15-May-11	1104	110	14.8	1.11
15-May-11	1105	115	17.5	1.15
15-May-11	1106	101	11.4	1.11
15-May-11	1107	116	16	1.03
15-May-11	1108	109	14.4	1.11
15-May-11	1109	107	12.8	1.04
15-May-11	1110	121	17.4	0.98
15-May-11	1111	115	16.4	1.08
15-May-11	1112	120	17.5	1.01
15-May-11	1113	109	13	1.00
15-May-11	1114	115	16.4	1.08
15-May-11	1115	109	13.1	1.01
15-May-11	1116	97	8.9	0.98

Period 2				
Date	**Fish**	**Length**	**Weight**	**KC**
15-May-11	1117	110	13.6	1.02
15-May-11	1118	128	24.5	1.17
15-May-11	1119	125	20.3	1.04
15-May-11	1120	113	13.8	0.96
16-May-11	1121	105	6.8	0.59
16-May-11	1122	110	8.3	0.62
16-May-11	1123	100	8.1	0.81
16-May-11	1124	100	5.9	0.59
16-May-11	1125	124	11	0.58
16-May-11	1126	110	7.5	0.56
16-May-11	1127	107	7.7	0.63
16-May-11	1128	86	3.6	0.57
17-May-11	1129	101	11.5	1.12
17-May-11	1130	109	13.1	1.01
17-May-11	1131	93	8.2	1.02
17-May-11	1132	96	9.2	1.04
17-May-11	1133	99	9.7	1.00
17-May-11	1134	105	12	1.04
17-May-11	1135	102	11.2	1.06
17-May-11	1136	97	10	1.10
17-May-11	1137	97	9.7	1.06
17-May-11	1138	111	16	1.17
17-May-11	1139	108	13.1	1.04
17-May-11	1140	101	11.6	1.13
17-May-11	1141	97	10.6	1.16
17-May-11	1142	110	13.3	1.00
17-May-11	1143	102	11.1	1.05
17-May-11	1144	105	13.1	1.13
17-May-11	1145	111	13.9	1.02
17-May-11	1146	108	13.3	1.06
17-May-11	1147	99	11.2	1.15
17-May-11	1148	120	20.4	1.18
17-May-11	1149	106	11.2	0.94
17-May-11	1150	118	18.3	1.11
17-May-11	1151	100	10.1	1.01
17-May-11	1152	94	8.4	1.01
17-May-11	1153	113	16.6	1.15
17-May-11	1154	107	13.3	1.09
17-May-11	1155	135	23.8	0.97
17-May-11	1156	110	14.7	1.10
17-May-11	1157	88	7.9	1.16
17-May-11	1158	117	17	1.06

Period 2				
Date	Fish	Length	Weight	KC
17-May-11	1159	104	11.5	1.02
17-May-11	1160	116	16.9	1.08
17-May-11	1161	104	12.9	1.15
17-May-11	1162	91	8.1	1.07
17-May-11	1163	102	11.5	1.08
17-May-11	1164	108	13.7	1.09
17-May-11	1165	109	14.5	1.12
17-May-11	1166	115	15.2	1.00
17-May-11	1167	100	10.3	1.03
17-May-11	1168	111	16.1	1.18
17-May-11	1169	104	10.6	0.94
17-May-11	1170	112	13.5	0.96
17-May-11	1171	100	9.9	0.99
17-May-11	1172	103	11.1	1.02
17-May-11	1173	103	10.4	0.95
17-May-11	1174	103	11.2	1.02
17-May-11	1175	118	17.3	1.05
17-May-11	1176	100	10.4	1.04
17-May-11	1177	110	12.5	0.94
17-May-11	1178	96	9.3	1.05
17-May-11	1179	112	15.2	1.08
17-May-11	1180	103	10.6	0.97
17-May-11	1181	114	14.8	1.00
17-May-11	1182	97	10	1.10
17-May-11	1183	112	15.3	1.09
17-May-11	1184	115	14.5	0.95
17-May-11	1185	121	18.4	1.04
17-May-11	1186	107	14.2	1.16
17-May-11	1187	99	10	1.03
17-May-11	1188	117	17.4	1.09
17-May-11	1189	106	12.2	1.02
17-May-11	1190	105	11.1	0.96
17-May-11	1191	89	7.2	1.02
17-May-11	1192	111	14.9	1.09
17-May-11	1193	102	10.5	0.99
17-May-11	1194	107	12.3	1.00
17-May-11	1195	105	13.1	1.13
17-May-11	1196	107	13.1	1.07
17-May-11	1197	112	15	1.07
17-May-11	1198	103	11	1.01
17-May-11	1199	93	8.6	1.07
17-May-11	1200	98	10	1.06

Period 2				
Date	Fish	Length	Weight	KC
17-May-11	1201	98	9.7	1.03
17-May-11	1202	113	15.8	1.10
17-May-11	1203	105	11.8	1.02
17-May-11	1204	100	11.5	1.15
17-May-11	1205	100	9.9	0.99
17-May-11	1206	120	17.8	1.03
17-May-11	1207	113	13.8	0.96
17-May-11	1208	107	13.3	1.09
17-May-11	1209	108	12.9	1.02
17-May-11	1210	118	16.3	0.99
17-May-11	1211	109	13	1.00
17-May-11	1212	102	11.1	1.05
17-May-11	1213	121	18	1.02
17-May-11	1214	106	13.2	1.11
20-May-11	1215	112	15.3	1.09
20-May-11	1216	81	6.1	1.15
20-May-11	1217	94	9.9	1.19
20-May-11	1218	113	15.7	1.09
20-May-11	1219	86	7.6	1.19
20-May-11	1220	112	18.7	1.33
20-May-11	1221	91	8.7	1.15
20-May-11	1222	87	7.6	1.15
20-May-11	1223	113	15.2	1.05
20-May-11	1224	108	12.9	1.02
20-May-11	1225	89	8.3	1.18
20-May-11	1226	88	7.8	1.14
20-May-11	1227	89	8	1.13
20-May-11	1228	86	7.5	1.18
20-May-11	1229	93	9.9	1.23
20-May-11	1230	98	12.6	1.34
20-May-11	1231	109	13.9	1.07
20-May-11	1232	108	12.7	1.01
20-May-11	1233	98	11.8	1.25
20-May-11	1234	90	8.2	1.12
20-May-11	1235	91	8.7	1.15
20-May-11	1236	114	15.4	1.04
20-May-11	1237	107	13.4	1.09
20-May-11	1238	99	10.2	1.05
20-May-11	1239	99	10.4	1.07
20-May-11	1240	93	8.6	1.07
20-May-11	1241	92	9.6	1.23
20-May-11	1242	103	12.4	1.13

Period 2				
Date	Fish	Length	Weight	KC
20-May-11	1243	100	12.7	1.27
20-May-11	1244	92	9.3	1.19
20-May-11	1245	95	8.8	1.03
20-May-11	1246	103	11.3	1.03
20-May-11	1247	99	10.5	1.08
20-May-11	1248	96	10.6	1.20
20-May-11	1249	90	8.1	1.11
20-May-11	1250	93	8.4	1.04
20-May-11	1251	105	12.9	1.11
20-May-11	1252	111	13.9	1.02
20-May-11	1253	95	9.3	1.08
20-May-11	1254	91	8.2	1.09
20-May-11	1255	91	8.9	1.18
20-May-11	1256	92	9.7	1.25
20-May-11	1257	110	14.8	1.11
20-May-11	1258	103	12.2	1.12
20-May-11	1259	113	16.9	1.17
20-May-11	1260	90	8.2	1.12
20-May-11	1261	92	9.1	1.17
20-May-11	1262	114	17.2	1.16
20-May-11	1263	111	15.7	1.15
20-May-11	1264	103	11.3	1.03
20-May-11	1265	105	14.1	1.22
20-May-11	1266	83	7.4	1.29
20-May-11	1267	111	13.9	1.02
20-May-11	1268	106	15.4	1.29
20-May-11	1269	102	11.6	1.09
20-May-11	1270	105	12.2	1.05
20-May-11	1271	94	10.4	1.25
20-May-11	1272	101	11.8	1.15
20-May-11	1273	106	13	1.09
20-May-11	1274	99	10.6	1.09
20-May-11	1275	114	13	0.88
20-May-11	1276	102	12	1.13
20-May-11	1277	111	15.6	1.14
20-May-11	1278	111	15.7	1.15
20-May-11	1279	110	15.7	1.18
20-May-11	1280	113	16.3	1.13
20-May-11	1281	88	7.6	1.12
20-May-11	1282	97	9.5	1.04
20-May-11	1283	109	14.6	1.13
20-May-11	1284	102	10.9	1.03

Period 2				
Date	Fish	Length	Weight	KC
20-May-11	1285	105	13.2	1.14
20-May-11	1286	98	10.7	1.14
20-May-11	1287	97	11.4	1.25
20-May-11	1288	107	14.8	1.21
20-May-11	1289	112	15	1.07
21-May-11	1290	101	12	1.16
21-May-11	1291	109	14.6	1.13
21-May-11	1292	115	16.7	1.10
21-May-11	1293	107	15.1	1.23
21-May-11	1294	100	12.6	1.26
21-May-11	1295	100	12.4	1.24
21-May-11	1296	86	7.7	1.21
21-May-11	1297	97	10.8	1.18
21-May-11	1298	96	9.9	1.12
21-May-11	1299	105	11.3	0.98
21-May-11	1300	96	9.8	1.11
21-May-11	1301	93	8.1	1.01
21-May-11	1302	111	15.7	1.15
21-May-11	1303	103	12.4	1.13
21-May-11	1304	109	15	1.16
21-May-11	1305	101	11.7	1.14
21-May-11	1306	95	10.5	1.22
21-May-11	1307	104	13.4	1.19
21-May-11	1308	127	22.2	1.08
21-May-11	1309	113	17.3	1.20
21-May-11	1310	100	11.6	1.16
21-May-11	1311	95	10	1.17
21-May-11	1312	100	11.8	1.18
21-May-11	1313	120	19.4	1.12
21-May-11	1314	95	10.6	1.24
21-May-11	1315	104	13.3	1.18
21-May-11	1316	110	14.1	1.06
21-May-11	1317	118	18.5	1.13
21-May-11	1318	84	6.8	1.15
21-May-11	1319	121	20.3	1.15
21-May-11	1320	115	16.7	1.10
21-May-11	1321	110	14.8	1.11
21-May-11	1322	90	7.8	1.07
21-May-11	1323	97	10.2	1.12
21-May-11	1324	110	15.4	1.16
21-May-11	1325	95	9.6	1.12
21-May-11	1326	100	10.7	1.07

Period 2				
Date	Fish	Length	Weight	KC
21-May-11	1327	96	9.3	1.05
21-May-11	1328	94	9.3	1.12
21-May-11	1329	86	7.5	1.18
21-May-11	1330	111	14.9	1.09
21-May-11	1331	100	10.8	1.08
21-May-11	1332	112	15.2	1.08
21-May-11	1333	101	11.4	1.11
21-May-11	1334	97	10.8	1.18
21-May-11	1335	112	17.4	1.24
21-May-11	1336	98	10.3	1.09
21-May-11	1337	117	18	1.12
21-May-11	1338	92	7.9	1.01
21-May-11	1339	94	9	1.08
21-May-11	1340	95	8.9	1.04
21-May-11	1341	105	12.4	1.07
21-May-11	1342	120	17.9	1.04
21-May-11	1343	94	8.4	1.01
21-May-11	1344	130	23.6	1.07
21-May-11	1345	107	13.5	1.10
21-May-11	1346	93	9.6	1.19
21-May-11	1347	106	14.3	1.20
21-May-11	1348	86	7.1	1.12
21-May-11	1349	98	10.1	1.07
21-May-11	1350	104	13.5	1.20
21-May-11	1351	103	11.9	1.09
21-May-11	1352	115	18.7	1.23
21-May-11	1353	95	9.6	1.12
21-May-11	1354	110	14.6	1.10
21-May-11	1355	97	10.6	1.16
21-May-11	1356	104	12.5	1.11
21-May-11	1357	120	20.5	1.19
21-May-11	1358	109	14.4	1.11
21-May-11	1359	108	13.1	1.04
22-May-11	1360	102	12.1	1.14
22-May-11	1361	96	10.3	1.16
22-May-11	1362	95	10.2	1.19
22-May-11	1363	98	11	1.17
22-May-11	1364	95	10	1.17
22-May-11	1365	98	10.5	1.12
22-May-11	1366	87	7.9	1.20
22-May-11	1367	96	10	1.13
22-May-11	1368	108	15.8	1.25

Period 2				
Date	Fish	Length	Weight	KC
22-May-11	1369	103	13.2	1.21
22-May-11	1370	108	14.3	1.14
22-May-11	1371	84	6.8	1.15
22-May-11	1372	97	9.1	1.00
22-May-11	1373	95	10.2	1.19
22-May-11	1374	95	9.3	1.08
22-May-11	1375	97	10.2	1.12
22-May-11	1376	91	8.6	1.14
22-May-11	1377	98	10.4	1.10
22-May-11	1378	96	9.8	1.11
22-May-11	1379	100	11.8	1.18
22-May-11	1380	113	17.3	1.20
22-May-11	1381	92	9.1	1.17
22-May-11	1382	97	11	1.21
22-May-11	1383	95	8.9	1.04
22-May-11	1384	104	14.9	1.32
22-May-11	1385	107	13.2	1.08
22-May-11	1386	117	21	1.31
22-May-11	1387	92	8.9	1.14
22-May-11	1388	94	10.1	1.22
22-May-11	1389	102	12.1	1.14
22-May-11	1390	100	10.2	1.02
22-May-11	1391	89	8	1.13
22-May-11	1392	110	16.8	1.26
22-May-11	1393	97	11.2	1.23
22-May-11	1394	97	10.4	1.14
22-May-11	1395	103	11.7	1.07
22-May-11	1396	106	14.2	1.19
22-May-11	1397	94	9.1	1.10
22-May-11	1398	126	22.4	1.12
22-May-11	1399	100	12.3	1.23
22-May-11	1400	85	7.1	1.16
22-May-11	1401	97	10.5	1.15
22-May-11	1402	125	23.8	1.22
22-May-11	1403	92	9.5	1.22
22-May-11	1404	100	10.6	1.06
22-May-11	1405	97	9.6	1.05
22-May-11	1406	88	7.4	1.09
22-May-11	1407	104	12.5	1.11
22-May-11	1408	96	10	1.13
22-May-11	1409	104	11.8	1.05
22-May-11	1410	95	9.7	1.13

Period 2				
Date	Fish	Length	Weight	KC
22-May-11	1411	115	17.2	1.13
22-May-11	1412	100	12.8	1.28
22-May-11	1413	100	11.5	1.15
22-May-11	1414	112	16	1.14
22-May-11	1415	118	20.6	1.25
22-May-11	1416	102	11.2	1.06
22-May-11	1417	97	10.1	1.11
22-May-11	1418	84	7.4	1.25
22-May-11	1419	97	10.8	1.18
22-May-11	1420	95	10	1.17
22-May-11	1421	99	10.9	1.12
22-May-11	1422	101	11.4	1.11
22-May-11	1423	93	9.7	1.21
22-May-11	1424	111	16.3	1.19
22-May-11	1425	94	9.1	1.10
22-May-11	1426	103	13.1	1.20
22-May-11	1427	120	19	1.10
22-May-11	1428	107	11.8	0.96
22-May-11	1429	127	23.1	1.13
23-May-11	1430	109	14.3	1.10
23-May-11	1431	105	12.9	1.11
23-May-11	1432	98	10.5	1.12
23-May-11	1433	110	15.1	1.13
23-May-11	1434	95	9.4	1.10
23-May-11	1435	105	14.2	1.23
23-May-11	1436	100	11.1	1.11
23-May-11	1437	95	8.9	1.04
23-May-11	1438	100	11.7	1.17
23-May-11	1439	105	14.4	1.24
23-May-11	1440	120	17.9	1.04
23-May-11	1441	120	20.9	1.21
23-May-11	1442	85	7	1.14
23-May-11	1443	110	14.8	1.11
23-May-11	1444	110	14.6	1.10
23-May-11	1445	105	12.3	1.06
23-May-11	1446	110	15.8	1.19
23-May-11	1447	105	14.4	1.24
23-May-11	1448	120	19.7	1.14
23-May-11	1449	106	14.1	1.18
23-May-11	1450	94	9.5	1.14
23-May-11	1451	103	12.1	1.11
23-May-11	1452	96	11	1.24

Period 2				
Date	Fish	Length	Weight	KC
23-May-11	1453	105	12.8	1.11
23-May-11	1454	91	9	1.19
23-May-11	1455	99	10.6	1.09
23-May-11	1456	105	12.1	1.05
23-May-11	1457	91	9.3	1.23
23-May-11	1458	95	10.1	1.18
23-May-11	1459	89	8.3	1.18
23-May-11	1460	95	10.1	1.18
23-May-11	1461	100	10.7	1.07
23-May-11	1462	95	9.9	1.15
23-May-11	1463	105	11.7	1.01
23-May-11	1464	142	33.8	1.18
23-May-11	1465	100	9.9	0.99
23-May-11	1466	122	19.8	1.09
23-May-11	1467	86	7.6	1.19
23-May-11	1468	85	6.6	1.07
23-May-11	1469	95	8.9	1.04
23-May-11	1470	114	16.3	1.10
23-May-11	1471	96	10.4	1.18
23-May-11	1472	112	15.7	1.12
23-May-11	1473	95	9.2	1.07
23-May-11	1474	135	26.8	1.09
23-May-11	1475	132	26.4	1.15
23-May-11	1476	140	30.2	1.10
23-May-11	1477	118	19.3	1.17
23-May-11	1478	120	18.2	1.05
23-May-11	1479	95	8.9	1.04
23-May-11	1480	100	11.2	1.12
23-May-11	1481	105	12.6	1.09
23-May-11	1482	91	8.5	1.13
23-May-11	1483	101	10.6	1.03
23-May-11	1484	110	17.6	1.32
23-May-11	1485	91	8.9	1.18
23-May-11	1486	85	6.8	1.11
23-May-11	1487	105	12.5	1.08
23-May-11	1488	100	11.8	1.18
23-May-11	1489	105	13.5	1.17
23-May-11	1490	115	16.6	1.09
23-May-11	1491	114	16.3	1.10
23-May-11	1492	115	15.7	1.03
23-May-11	1493	90	8.8	1.21
23-May-11	1494	96	10.4	1.18

Period 2				
Date	Fish	Length	Weight	KC
23-May-11	1495	109	14.7	1.14
23-May-11	1496	106	14	1.18
23-May-11	1497	98	10.4	1.10
23-May-11	1498	105	13.1	1.13
23-May-11	1499	95	8.8	1.03
24-May-11	1500	107	13.9	1.13
24-May-11	1501	105	13.1	1.13
24-May-11	1502	111	17.6	1.29
24-May-11	1503	112	15.7	1.12
24-May-11	1504	113	15.4	1.07
24-May-11	1505	101	11.7	1.14
24-May-11	1506	94	9.6	1.16
24-May-11	1507	102	12.4	1.17
24-May-11	1508	90	7.6	1.04
24-May-11	1509	108	14.4	1.14
24-May-11	1510	100	11.7	1.17
24-May-11	1511	115	17.6	1.16
24-May-11	1512	118	20.1	1.22
24-May-11	1513	116	16.3	1.04
24-May-11	1514	117	18.2	1.14
24-May-11	1515	100	11.9	1.19
24-May-11	1516	92	10	1.28
24-May-11	1517	94	10.5	1.26
24-May-11	1518	116	19.1	1.22
24-May-11	1519	117	18.3	1.14
24-May-11	1520	97	9.8	1.07
24-May-11	1521	104	12.5	1.11
24-May-11	1522	94	8.8	1.06
24-May-11	1523	100	11.8	1.18
24-May-11	1524	105	13.3	1.15
24-May-11	1525	104	12.6	1.12
24-May-11	1526	98	9.9	1.05
24-May-11	1527	114	17.1	1.15
24-May-11	1528	111	14.8	1.08
24-May-11	1529	110	15.7	1.18
24-May-11	1530	104	13.4	1.19
24-May-11	1531	97	11.8	1.29
24-May-11	1532	93	9.7	1.21
24-May-11	1533	115	18	1.18

Period 2				
Date	Fish	Length	Weight	KC
24-May-11	1534	112	14.8	1.05
24-May-11	1535	94	9.2	1.11
24-May-11	1536	102	12.5	1.18
24-May-11	1537	108	15.5	1.23
24-May-11	1538	91	8.8	1.17
24-May-11	1539	107	15.5	1.27
24-May-11	1540	106	14.6	1.23
24-May-11	1541	100	12.5	1.25
24-May-11	1542	119	19	1.13
24-May-11	1543	115	18.3	1.20
24-May-11	1544	117	18.3	1.14
24-May-11	1545	104	13.2	1.17
24-May-11	1546	104	13	1.16
24-May-11	1547	115	18.5	1.22
24-May-11	1548	108	14.8	1.17
24-May-11	1549	90	8.9	1.22
24-May-11	1550	111	17.4	1.27
24-May-11	1551	100	11.9	1.19
24-May-11	1552	109	15.1	1.17
24-May-11	1553	100	11	1.10
24-May-11	1554	106	13.2	1.11
24-May-11	1555	102	12.2	1.15
24-May-11	1556	116	15.7	1.01
24-May-11	1557	115	15.4	1.01
24-May-11	1558	112	16.2	1.15
24-May-11	1559	108	14.8	1.17
24-May-11	1560	100	11.6	1.16
24-May-11	1561	113	15.7	1.09
24-May-11	1562	101	11.4	1.11
24-May-11	1563	113	15.9	1.10
24-May-11	1564	108	14.9	1.18
24-May-11	1565	109	16	1.24
Average		107	13.4	1.08
Min		81	3.6	0.56
Max		146	33.8	1.34
SD		11	4.1	0.09

Period 3				
Date	Fish	Length	Weight	KC
25-May-11	1566	104	12	1.07
25-May-11	1567	99	9.8	1.01
25-May-11	1568	106	12.4	1.04
25-May-11	1569	117	16.2	1.01
25-May-11	1570	103	11.7	1.07
25-May-11	1571	107	13.5	1.10
25-May-11	1572	115	15.4	1.01
25-May-11	1573	107	14.2	1.16
25-May-11	1574	107	14.1	1.15
25-May-11	1575	107	14.4	1.18
30-May-11	1576	97	10.2	1.12
30-May-11	1577	89	7	0.99
30-May-11	1578	112	15	1.07
30-May-11	1579	94	9.4	1.13
30-May-11	1580	90	8.2	1.12
30-May-11	1581	97	11	1.21
30-May-11	1582	86	8.1	1.27
30-May-11	1583	110	13.4	1.01
30-May-11	1584	100	10.4	1.04
30-May-11	1585	115	17.1	1.12
30-May-11	1586	90	9.1	1.25
30-May-11	1587	95	9.7	1.13
30-May-11	1588	93	8.3	1.03
30-May-11	1589	95	9.4	1.10
30-May-11	1590	96	10	1.13

Period 3				
Date	Fish	Length	Weight	KC
30-May-11	1591	92	9.4	1.21
30-May-11	1592	108	12.2	0.97
30-May-11	1593	85	6.8	1.11
30-May-11	1594	112	14.3	1.02
30-May-11	1595	112	17.1	1.22
30-May-11	1596	97	10	1.10
30-May-11	1597	97	10.4	1.14
30-May-11	1598	94	8.4	1.01
30-May-11	1599	99	10.6	1.09
30-May-11	1600	90	8	1.10
30-May-11	1601	84	7.2	1.21
30-May-11	1602	105	13	1.12
30-May-11	1603	92	8.5	1.09
30-May-11	1604	93	8.8	1.09
30-May-11	1605	112	16	1.14
30-May-11	1606	90	8	1.10
30-May-11	1607	93	8.8	1.09
30-May-11	1608	105	13	1.12
30-May-11	1609	100	10.3	1.03
30-May-11	1610	95	9.3	1.08
Average		**100**	**11.1**	**1.10**
Min		**84**	**6.8**	**0.97**
Max		**117**	**17.1**	**1.27**
SD		**9**	**2.9**	**0.07**

Appendix F. Daily water level and temperature during the fall 2011 adult migration period.

Date	Water Temp (C⁰)	Air Temp (C⁰)	Water Level (cm)	Weather Code	Comment
27-Sep-11	11.7	15	78	1\2	
28-Sep-11	-	-	-	-	
29-Sep-11	-	-	-	-	
30-Sep-11	11.9	13	76	1	
1-Oct-11	-	-	-	-	
2-Oct-11	-	-	-	-	
3-Oct-11	-	-	-	-	
4-Oct-11	11.4	12.5	80	3	
5-Oct-11	11.5	11.7	90	2|3	
6-Oct-11	11.2	11.6	91	2	
7-Oct-11	11.2	11	92	1	
8-Oct-11	11.1	9	92	2	
9-Oct-11	10.2	6	92	1	
10-Oct-11	10.1	9	86	2|3	
11-Oct-11	10.7	11	88	1	
12-Oct-11	10.4	8	87	1|2	
13-Oct-11	10	6	84	1|2	
14-Oct-11	8.7	5	81	1	
15-Oct-11	7.8	4	79	1	
16-Oct-11	6.7	3	78	1	
17-Oct-11	8	8.6	77	2	
18-Oct-11	8	3.7	76	1	
19-Oct-11	8.6	7	75	1|2	
20-Oct-11	8.9	6	72	1|2	
21-Oct-11	8.1	8	73	3	
22-Oct-11	9.5	8	74	1|2|3	
23-Oct-11	8.4	4	74	1	
24-Oct-11	6.9	1	75	1|2	
25-Oct-11	6	1	76	1|2	
26-Oct-11	6.3	7	74	2|3	
27-Oct-11	5.4	2	75	1|2	
28-Oct-11	6.4	7	80	2|3	
29-Oct-11	6.8	3	81	1|2|3	
30-Oct-11	7.8	8	81	2|3	
31-Oct-11	6.8	2	78	1|2	
1-Nov-11	5.5	1	76	1|2	
2-Nov-11	6	6	76	1|2	
3-Nov-11	4.8	0.2	78	1	
4-Nov-11	4.2	0	80	1|2	

Date	Water Temp (C⁰)	Air Temp (C⁰)	Water Level (cm)	Weather Code	Comment
5-Nov-11	4.2	2	80	2|3	
6-Nov-11	4.4	5	79	2|3	
7-Nov-11	4.9	3	77	1|2|3	
8-Nov-11	5.7	3	75	1|2|3	
9-Nov-11	-	-	-	-	
10-Nov-11	7.2	7.6	84	1|2	
11-Nov-11	7	6.8	84	1|2	
12-Nov-11	5.8	3	86	2|3	
13-Nov-11	6.1	5.1	87	2|3	
14-Nov-11	4.2	0	87	1	
15-Nov-11	2.9	-2	86	1|2	
16-Nov-11	3	2.9	82	2|3	
17-Nov-11	2.3	0.7	96	1	
18-Nov-11	2.4	1.2	94	1|2	
19-Nov-11	1.5	-2	92	1|2	
20-Nov-11	1.4	-1	91	1|2	
21-Nov-11	-	-	-	-	
22-Nov-11	2.1	2.5	170	1	
23-Nov-11	3.5	2.5	165	1|2	
24-Nov-11	3.3	4.6	146	3	
25-Nov-11	2.6	0.1	155	1	
26-Nov-11	3	5.1	155	3	[illegible] OFF
27-Nov-11	6.4	8	170+	2	Gauge Washed Away
28-Nov-11	5.5	3.4	170+	1|2	
29-Nov-11	5.4	4.1	-	2	
30-Nov-11	4.8	2.1	-	1	
1-Dec-11	4.1	3.8	-	1	

Appendix G. Adult Coho data, Black Creek fall fence, 2011.

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
09-27-11	J	1	36	N				
09-27-11	J	1	38	N				
09-27-11	J	1	37	N				
09-27-11	J	1	36	N				
09-27-11	J	1	40	Y				
09-27-11	J	1	36	Y				
09-27-11	J	1	41	N				
09-27-11	J	1	41	N				
09-27-11	J	1	33	N				
09-27-11	J	1	32	N				
09-27-11	F	1	58	N	151	80560	1	
09-27-11	M	1	60	N	152	80560	2	
09-27-11	J	1	35	N				
09-27-11	J	1	31	N				
09-27-11	M	1	57		153	80560	3	
09-27-11	J	1	31	Y				
09-27-11	J	1	30	Y				
09-30-11	J	1	34	N				
09-30-11	J	1	30	N				
09-30-11	J	1	31	Y				
09-30-11	J	1	33	N				
09-30-11	J	1	32	N				
09-30-11	J	1	34	N				
09-30-11	J	1	30	Y				
10-04-11	J	1	27	N				
10-04-11	J	1	29	N				
10-04-11	J	1	26	Y				
10-04-11	J	1	27	N				
10-04-11	J	1	29	N				
10-04-11	J	1	27	N				
10-04-11	J	1	27	Y				
10-04-11	J	1	25	N				
10-04-11	J	1	26	N				
10-04-11	J	1	26	N				
10-04-11	J	1	27	N				
10-04-11	J	1	28	N				
10-04-11	J	1	28	N				
10-04-11	J	1	28	N				
10-04-11	J	1	26	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-04-11	J	1	27	N				
10-04-11	J	1	24	N				
10-04-11	J	1	26	N				
10-04-11	J	1	26	N				
10-04-11	J	1	28	N				
10-04-11	J	1	26	Y				
10-04-11	J	1	27	N				
10-04-11	M	1	45	N	154			
10-05-11	J	1	36	N				
10-05-11	J	1	33	N				
10-05-11	J	1	32	N				
10-05-11	J	1	32	N				
10-05-11	J	1	33	N				
10-05-11	J	1	38	N				
10-05-11	J	1	35	N				
10-05-11	F	1	49	N	176			
10-05-11	J	1	33	Y				
10-05-11	J	1	40	N				
10-05-11	J	1	33	Y				
10-05-11	J	1	34	N				
10-05-11	J	1	33	N				
10-05-11	J	1	34	N				
10-05-11	J	1	31	N				
10-05-11	M	2	58	Y	192			
10-05-11	J	2	31	N				
10-05-11	J	1	30	N				
10-05-11	J	1	34	N				
10-05-11	J	1	31	N				
10-05-11	J	1	31	Y				
10-05-11	F	2	69	N	182			
10-05-11	J	2	34	N				
10-05-11	J	2	44	N				
10-05-11	J	1	32	N				
10-05-11	J	1	29	Y				
10-05-11	J	1	33	N				
10-05-11	J	1	30	N				
10-05-11	J	2	35	N				
10-05-11	J	2	35	Y				
10-05-11	J	1	34	N				
10-05-11	J	2	34	Y				
10-05-11	J	1	33	N				
10-05-11	J	1	31	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-05-11	J	1	30	N				
10-05-11	J	1	30	N				
10-05-11	J	1	36	Y				
10-05-11	F	3	65	N	195			
10-05-11	J	2	37	N				
10-05-11	J	1	31	N				
10-05-11	J	1	30	N				
10-05-11	J	1	31	N				
10-05-11	J	1	37	N				
10-05-11	J	1	30	N				
10-05-11	J	1	35	N				
10-05-11	J	2	32	N				
10-05-11	J	1	32	N				
10-05-11	J	1	34	N				
10-05-11	J	1	31	N				
10-05-11	J	1	34	N				
10-05-11	J	1	30	N				
10-05-11	J	1	32					NO PUNCH
10-05-11	J	1	37	Y				
10-05-11	J	1	30	N				
10-05-11	J	1	40	N				
10-05-11	J	1	34	N				
10-05-11	J	2	36	N				
10-05-11	J	1	34	N				
10-05-11	M	1	68		178			
10-05-11	J	1	35	Y				
10-05-11	J	1	37	N				
10-05-11	J	1	35	Y				
10-05-11	J	1	31	Y				
10-05-11	M	2	62	N	358			
10-05-11	M	3	62	N	366	80562	10	
10-05-11	J	1	37					
10-05-11	J	1	31	N				
10-05-11	J	1	37	N				
10-05-11	J	1	31	N				
10-05-11	J	1	32	N				
10-05-11	J	1	35	N				
10-05-11	J	1	31	N				
10-05-11	J	1	33	N				NO PUNCH
10-05-11	J	1	32	N				
10-05-11	J	1	33	N				
10-05-11	J	1	36	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-05-11	J	1	35	N				
10-05-11	J	1	35	N				
10-05-11	J	1	33	Y				
10-05-11	M	2	52	N	373	80560	4	
10-05-11	J	1	31	N				
10-05-11	J	1	32	N				
10-05-11	J	1	37	N				
10-05-11	J	1	32	N				
10-05-11	J	1	35	N				
10-05-11	J	1	35	N				
10-05-11	J	1	32	N				
10-05-11	J	1	39	N				
10-05-11	J	1	35	N				
10-05-11	J	1	32	N				
10-05-11	J	2	33	N				
10-05-11	M	2	66	N	365	80560	5	
10-05-11	J	1	34	N				
10-05-11	J	1	33	N				
10-05-11	J	1	36	N				
10-05-11	J	1	38					NO PUNCH
10-05-11	J	1	36	N				
10-05-11	J	1	34	N				
10-05-11	J	1	32	N				
10-05-11	M	2	63	N	374	80562	9	
10-05-11	J	1	40	N				
10-05-11	J	1	30	N				
10-05-11	J	1	35	N				
10-05-11	J	1	36	N				
10-05-11	J	1	35	N				
10-05-11	J	1	29	N				
10-05-11	J	1	31	N				
10-05-11	J	1	29	N				
10-05-11	J	2	39	N				
10-05-11	J	1	33	N				
10-05-11	J	2	34	N				
10-05-11	J	1	35	N				
10-05-11	J	1	31	N				
10-05-11	J	1	27	N				
10-05-11	J	1	28	N				
10-05-11	J	1	30	N				
10-05-11	J	1	30	N				
10-05-11	J	1	30	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-05-11	J	1	38	N				
10-05-11	J	1	30	N				
10-05-11	J	1	35	N				
10-05-11	M	2	56	N	479	80560	6	
10-05-11	J	1	36	N				
10-05-11	J	1	32	N				
10-05-11	J	1	31	N				
10-05-11	J	1	34	N				
10-05-11	J	1	33	N				
10-05-11	J	1	36	N				
10-05-11	J	1	30	N				
10-05-11	J	1	31	N				
10-05-11	J	1	37	N				
10-05-11	J	1	32	N				
10-05-11	J	1	35	N				
10-05-11	J	1	31	N				
10-05-11	M	1	82		490	80560	7	
10-05-11	J	1	39	N				
10-05-11	J	2	38	N				
10-05-11	J	1	33	N				NO PUNCH
10-05-11	J	2	32	N				
10-05-11	J	1	37	N				
10-05-11	M	2	62	N	481	80560	8	
10-05-11	J	1	32	N				
10-05-11	J	1	37	N				
10-05-11	J	1	32	N				
10-05-11	F	1	56	N	352	80560	9	
10-05-11	J	2	38	N				
10-05-11	J	1	33	N				
10-05-11	J	2	39	N				
10-05-11	J	1	27	N				
10-05-11	J	1	35	N				
10-05-11	J	1	30	Y				
10-05-11	J	1	35	N				
10-05-11	J	1	35	N				
10-05-11	J	1	38	N				
10-05-11	J	1	33	N				
10-05-11	J	2	44	N				
10-05-11	F	2	67	Y	353	80560	10	
10-05-11	M	2	67		488	80561	1	
10-05-11	J	1	34	N				
10-05-11	J	1	28	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-05-11	J	1	34	N				
10-05-11	F	1	61	N	489	80561	2	
10-05-11	M	1	56	N	354	80561	3	
10-05-11	J	1	41	N				
10-05-11	J	1	35	N				
10-05-11	J	1	35	N				
10-05-11	J	1	33	N				
10-05-11	J	1	34	N				
10-05-11	J	1	33	N				
10-05-11	J	1	39	Y				
10-05-11	F	1	51	N	190	80561	4	
10-05-11	J	1	35	N				
10-05-11	M	1	71	N	199	80561	5	
10-05-11	J	1	35	N				
10-05-11	F	1	65	N	356	80561	6	
10-05-11	M	1	73	N	359	80561	7	
10-05-11	M	1	62	N	198			
10-05-11	F	1	50					
10-05-11	F	1	57	Y	301	80561	8	
10-05-11	F	2	55	N	302	80561	9	
10-05-11	M	1	71	N	375	80561	10	
10-05-11	F	1	63	N	351	80562	1	
10-05-11	J	1	30	Y				
10-05-11	F	1	50	N	325			
10-05-11	F	1	66	Y	304			
10-05-11	M	1	61	N	370			
10-05-11	F	1	67	N	303			
10-05-11	M	3	73	N	369			
10-05-11	M	2	65	N	362			
10-05-11	J	1	32	N				
10-05-11	F	1	72		363			
10-05-11	J	1	33	N				
10-05-11	F	1	60	N	371			
10-05-11	F	1	68	N	355			
10-05-11	M	2	60	N	357			
10-05-11	J	1	30	N				
10-05-11	J	1	36	N				
10-05-11	F	1	64	N	360			
10-05-11	F	1	66	Y	368			
10-05-11	F	1	46	N	361			
10-05-11	M	2	64	N	364			
10-05-11	J	1	38	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-05-11	F	1	58	N	309			
10-05-11	J	1	34	N				
10-05-11	F	1	63	N	372			
10-05-11	F	1	48	Y	323			
10-05-11	F	1	69	N	317			
10-05-11	M	2	70	N	324			
10-05-11	J	1	35	N				
10-05-11	F	1	55	N	308			
10-05-11	M	1	47	Y	306			
10-05-11	M	1	61	N				NO TAG
10-05-11	F	1	64	N	312			
10-05-11	F	1	67	N	311			
10-05-11	J	1	33	N				
10-05-11	F	1	52	N	316			
10-05-11	J	1	34					
10-05-11	M	2	68		315			
10-05-11	J	1	31	N				
10-05-11	F	1	60					NO TAG
10-05-11	M	1	56	Y	320			
10-05-11	M	2	65	N	319			
10-05-11	M	2	59	N	321			
10-05-11	F	1	69	N	310			
10-05-11	M	2	66	N	318			
10-05-11	J	1	34	N				
10-05-11	M	1	68	N	322			
10-05-11	J	1	31	Y				
10-05-11	M	1	67	N	313			
10-05-11	J	1	38	N				
10-05-11	M	1	58		305			
10-05-11	J	1	30	N				
10-05-11	F	1	65	N	197			
10-05-11	J	1	35	N				
10-05-11	J	1	34	N				
10-05-11	J	1	32	N				
10-05-11	F	1	61	N	188			
10-05-11	J	1	35	N				
10-05-11	J	1	30	N				
10-05-11	F	1	60	N	196			
10-05-11	J	1	37	N				
10-05-11	M	1	63	N	179			
10-05-11	F	1	62	N	200			
10-05-11	M	1	51	Y	191			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-05-11	F	1	61	N	187			
10-05-11	J	1	35	N				
10-05-11	M	2	61	N	307			
10-05-11	J	1	34	N				
10-05-11	F	1	67	N	186			
10-05-11	J	1	36	N				
10-05-11	M	2	53		177			
10-05-11	J	1	33	N				
10-05-11	M	2	61	N	183			
10-05-11	J	1	32	N				
10-05-11	J	1	38	N				
10-05-11	F	1	69	N	185			
10-05-11	M	1	73		181			
10-05-11	J	1	35	N				
10-05-11	F	1	67	N	180			
10-05-11	J	1	32	N				
10-05-11	F	1	64	N	184			
10-05-11	F	1	61		158			
10-05-11	J	1	31	N				
10-05-11	J	1	36	N				
10-05-11	J	1	39	N				
10-05-11	J	1	31	N				
10-05-11	J	1	30	N				
10-05-11	J	1	33	Y				
10-05-11	J	1	42	N				
10-05-11	J	1	44	N				
10-05-11	M	2	73	Y	162			
10-05-11	J	1	37	Y				
10-05-11	J	1	31	N				
10-05-11	J	1	33	N				
10-05-11	J	1	30	N				
10-05-11	M	2	65	Y	161			
10-05-11	J	1	29	N				
10-05-11	M	1	67	N	156			
10-05-11	J	1	35	N				
10-05-11	J	1	30	N				
10-05-11	J	1	36	N				
10-05-11	J	1	33	N				
10-05-11	J	1	33	N				
10-05-11	F	1	66	N	167			
10-05-11	J	1	39	N				
10-05-11	J	1	34	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-05-11	J	1	32	N				
10-05-11	J	1	37	N				
10-05-11	J	1	34	N				
10-05-11	F	1	61	N	170			
10-05-11	J	1	31	N				
10-05-11	J	1	29	N				
10-05-11	M	1	67	N	171			
10-05-11	F	1	66	N	163			
10-05-11	F	1	67	N	165			
10-05-11	J	1	33	N				
10-05-11	J	1	34	N				
10-05-11	M	1	55	N	164			
10-05-11	J	1	32	N				
10-05-11	M	1	49	N	159			
10-05-11	J	1	27	N				
10-05-11	M	2	71	N	166			
10-05-11	J	1	33	N				
10-05-11	J	1	32	N				
10-05-11	J	1	35	N				
10-05-11	J	1	31	N				
10-05-11	J	1	28	N				
10-05-11	J	1	31	N				
10-05-11	J	2	35	N				
10-05-11	J	1	32	N				
10-05-11	J	1	29	N				
10-05-11	J	1	30	Y				NO PUNCH
10-05-11	F	2	68	N	157			
10-05-11	J	1	34	N				
10-05-11	J	1	35	N				
10-05-11	J	1	34	N				
10-05-11	F	1	65	N	169			
10-05-11	F	1	61	N	172			
10-05-11	J	1	31	N				
10-05-11	M	1	64	N	175			
10-05-11	F	1	71	N	160			
10-05-11	M	1	48					NO TAG, NO PUNCH
10-05-11	J	1	27	N				
10-05-11	M	1	67	N	168			
10-05-11	J	1	30	N				
10-05-11	J	1	29	Y				
10-05-11	F	1	63	Y	155			
10-05-11	J	1	32	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-05-11	F	1	71	N	174			
10-05-11	J	1	32	N				
10-06-11	F	1	61	N	335			
10-06-11	F	2	67	N	345			
10-06-11	F	1	69	N	328			
10-06-11	F	2	68	N	336			
10-06-11	F	2	68		342			
10-06-11	J	1	40	N				
10-06-11	J	1	37	N				
10-06-11	J	1	39	N				
10-06-11	J	1	38	N				
10-06-11	J	1	35	N				
10-06-11	J	1	36	N				
10-06-11	F	1	67	N	331			
10-06-11	F	1	68	Y	343			
10-06-11	J	1	34	N				
10-06-11	F	1	70	N	332			
10-06-11	F	1	68	N	333			
10-06-11	J	1	30	Y				
10-06-11	F	1	64	N	329			
10-06-11	F	1	69	N	327			
10-06-11	M	2	64	N	330			
10-06-11	M	2	60	N	339			
10-06-11	M	2	53	N	344			
10-06-11	J	1	32	N				
10-06-11	J	1	38	N				
10-06-11	J	1	38	N				
10-06-11	J	1	33	N				
10-06-11	J	1	31	N				
10-06-11	J	1	33	N				
10-06-11	F	1	61	N	350			
10-06-11	M	2	64		340			
10-06-11	J	1	32	N				
10-06-11	J	1	34	N				
10-06-11	J	2	35	N				
10-06-11	J	2	37	N				
10-06-11	F	2	64	N	346			
10-06-11	F	2	60	N	347			
10-06-11	M	2	65	N	337			
10-06-11	J	1	34	N				
10-06-11	F	2	62	Y	338			
10-06-11	M	3	73	N	348			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-06-11	J	1	36	N				
10-06-11	J	1	38	N				
10-06-11	F	2	64	N	326			
10-06-11	J	1	29	N				
10-06-11	M	2	65	Y	334			
10-06-11	J	1	29	N				
10-06-11	J	1	34	N				
10-06-11	J	1	31	N				
10-06-11	F	2	65	N	341			
10-06-11	M	2	67	N	376			
10-06-11	J	1	37	N				
10-06-11	F	1	70	Y	395			
10-06-11	J	1	32	N				
10-06-11	J	1	34	N				
10-06-11	J	1	36	Y				
10-06-11	M	2	63	N	384			
10-06-11	J	1	32	N				
10-06-11	J	1	33	N				
10-06-11	J	1	29	N				
10-06-11	J	1	30	N				NO PUNCH
10-06-11	J	1	29	N				
10-06-11	J	1	33	N				
10-06-11	F	2	67	N	381			
10-06-11	M	2	46	N	398			
10-06-11	M	1	71	N	385			
10-06-11	J	1	34	N				
10-06-11	J	1	30	N				
10-06-11	F	2	69	N	380			
10-06-11	F	1	63	N	400			
10-06-11	J	1	35	N				
10-06-11	J	2	37	N				
10-06-11	M	2	56	N	386	80562	2	
10-06-11	M	1	71	N	393	80562	3	
10-06-11	J	1	33	N				
10-06-11	M	2	67	N	392	80562	4	
10-06-11	M	1	64	N	397	80562	5	
10-06-11	F	2	64	N	399	80562	6	
10-06-11	J	1	30	N				
10-06-11	F	2	67	Y	389	80562	7	
10-06-11	F	2	68		388	80562	8	
10-06-11	J	1	35	N				
10-06-11	F	2	66	N	377			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-06-11	M	3	67	N	391			
10-06-11	J	1	34	N				
10-06-11	M	3	75	N	397			
10-06-11	J	1	35	N				
10-06-11	J	2	38	N				
10-06-11	J	1	37	N				
10-06-11	M	2	64	N	378			
10-06-11	M	2	77	N	382			
10-06-11	F	2	60	N	383			
10-06-11	F	1	69	N	394			
10-06-11	M	1	75	N	396			
10-06-11	J	1	30	N				
10-06-11	J	1	36	N				
10-06-11	J	1	33	N				
10-06-11	F	1	65	Y	390			
10-06-11	F	1	67	N	938			
10-06-11	J	1	33	N				
10-06-11	J	1	36	N				
10-06-11	J	1	35	Y				
10-06-11	M	2	57	N	939			
10-06-11	M	2	63	N	929			
10-06-11	F	1	63	N	943			
10-06-11	J	1	38	N				
10-06-11	J	1	31	N				
10-06-11	M	2	55	Y	950			
10-06-11	F	1	72	N	944			
10-06-11	J	1	32	N				
10-06-11	J	1	30	Y				
10-06-11	J	1	35	N				
10-06-11	J	1	33	N				
10-06-11	M	1	49	N	946			
10-06-11	M	1	75	N	934			
10-06-11	M	2	73	N	937			
10-06-11	F	1	59	N	949			
10-06-11	F	1	62	N	926			
10-06-11	M	1	69		940			
10-06-11	J	1	35	N				
10-06-11	J	1	32	N				
10-06-11	J	1	35	N				
10-06-11	J	1	38	N				
10-06-11	J	1	40	N				
10-06-11	F	1	70	N	942			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-06-11	J	1	34	N				
10-06-11	J	1	36	N				
10-06-11	M	2	71	N	948			
10-06-11	J	1	32	N				
10-06-11	M	3	64	N	932			
10-06-11	J	1	38	N				
10-06-11	J	1	32	N				
10-06-11	J	1	35	N				
10-06-11	M	3	68	N	928			
10-06-11	M	2	71	N	933			
10-06-11	J	1	35	N				
10-06-11	J	1	37	Y				
10-06-11	J	1	29	N				
10-06-11	J	1	31	N				
10-06-11	J	1	35	N				
10-06-11	J	1	28	N				
10-06-11	J	1	30	N				
10-06-11	J	1	34	N				
10-06-11	F	1	68	N	947			
10-06-11	F	2	63	N	931			
10-06-11	J	1	35	N				
10-06-11	J	1	30	N				
10-06-11	J	1	31	N				
10-06-11	J	1	31	N				
10-06-11	J	1	32	N				
10-06-11	J	1	33	N				
10-06-11	J	1	34	N				
10-06-11	J	1	38	N				
10-06-11	F	1	65	N	936			
10-06-11	J	1	31	N				
10-06-11	J	1	33	N				
10-06-11	F	1	52	N	927			
10-06-11	M	1	65		945			
10-06-11	M	1	67	Y	941			
10-06-11	J	1	32	N				
10-06-11	M	2	70	N	930			
10-06-11	M	1	68	N	935			
10-06-11	M	2	68	N	994			
10-06-11	J	1	34	N				
10-06-11	M	2	55	N	996			
10-06-11	M	2	65	N	978			
10-06-11	M	3	71	N	989			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-06-11	J	1	31	N				
10-06-11	F	1	66	N	992			
10-06-11	M	3	75	N	986			
10-06-11	F	2	66	N	977			
10-06-11	J	1	35	N				
10-06-11	J	1	33	N				
10-06-11	M	2	68	N	990			
10-06-11	J	1	29	N				
10-06-11	J	1	31	N				
10-06-11	F	1	67	N	980			
10-06-11	J	1	34	N				
10-06-11	J	1	38					
10-06-11	F	1	67	N	979			
10-06-11	F	2	70	N	995			
10-06-11	J	1	31	Y				
10-06-11	J	1	32	N				
10-06-11	M	2	69	N	976			
10-06-11	M	2	72	N	999			
10-06-11	F	1	64	N	984			
10-06-11	F	1	67	N	982			
10-06-11	J	1	30	N				
10-06-11	F	1	60	N	981			
10-06-11	M	3	68	N	997			
10-06-11	M	3	53	N	993			
10-06-11	M	3	62	N	991			
10-06-11	M	2	75	N	998			
10-06-11	J	1	29	N				
10-06-11	M	2	66	N	983			
10-06-11	F	1	66	N	988			
10-06-11	F	1	59	Y	987			
10-06-11	J	1	33	N				
10-06-11	F	1	66	N	1000			
10-06-11	M	1	71	N	985			
10-06-11	M	3	76	N	967			
10-06-11	J	1	33	N				
10-06-11	F	1	65	N	953			956 WASTED
10-06-11	J	1	35	N				
10-06-11	M	2	62	N	957			
10-06-11	F	3	68		952			
10-06-11	F	1	56	N	969			
10-06-11	M	3	70	N	966			
10-06-11	J	1	31	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-06-11	M	1	63		961			
10-06-11	F	1	53		963			
10-06-11	M	3	74	N	960			
10-06-11	F	2	68	N	974			
10-06-11	F	1	72		962			
10-06-11	M	3	61		975			
10-06-11	J	1	31	N				
10-06-11	M	2	72	N	954			
10-06-11	J	1	31	Y				
10-06-11	J	1	34	N				
10-06-11	J	1	31	N				
10-06-11	J	1	36	N				
10-06-11	J	1	36	N				
10-06-11	J	1	32	N				
10-06-11	F	1	61	N	959			
10-06-11	-	-	-	-	959			
10-06-11	J	1	27	N				
10-06-11	J	1	33	N				
10-06-11	J	1	32	N				
10-06-11	J	1	28	N				
10-06-11	J	1	36	N				
10-06-11	J	1	31	N				
10-06-11	J	1	33	N				
10-06-11	J	1	36					NO PUNCH
10-06-11	J	1	32	N				
10-06-11	J	1	32	N				
10-06-11	J	1	31	N				
10-06-11	J	1	33	N				
10-06-11	J	1	30	N				
10-06-11	J	1	32	N				
10-06-11	J	1	36	N				
10-06-11	J	1	30	N				
10-06-11	J	1	32	N				
10-06-11	M	3	70	N	959			
10-06-11	J	1	36	N				
10-06-11	J	1	33	N				
10-06-11	J	1	36	N				
10-06-11	J	1	38	N				
10-06-11	J	1	33	N				
10-06-11	J	1	31	N				
10-06-11	J	1	29	Y				
10-06-11	J	1	31	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-06-11	J	1	33	N				
10-06-11	J	1	33	N				
10-06-11	J	1	33	N				
10-06-11	J	1	36	N				
10-06-11	J	1	30	N				
10-06-11	J	1	32	N				
10-06-11	J	1	28	N				
10-06-11	J	1	29	N				
10-06-11	J	1	32	N				
10-06-11	F	1	68	N	972			
10-06-11	J	1	33	N				
10-06-11	J	1	34	N				
10-06-11	J	1	37	N				
10-06-11	J	1	32	N				
10-06-11	J	1	33	N				
10-06-11	J	1	30	N				
10-06-11	J	1	28	N				
10-06-11	J	1	28	N				
10-06-11	J	1	38	N				
10-06-11	J	1	35	N				
10-06-11	J	1	35	N				
10-06-11	J	1	34	N				
10-06-11	J	1	36	Y				
10-06-11	J	1	32	N				
10-06-11	J	1	33	N				
10-06-11	J	1	31	N				
10-06-11	J	1	29	N				
10-06-11	J	1	31	N				
10-06-11	J	1	43	Y				
10-06-11	J	1	33	N				
10-06-11	J	1	30	N				
10-06-11	J	1	30	N				
10-06-11	J	1	29	N				
10-06-11	J	1	28	N				
10-06-11	J	1	30	N				
10-06-11	J	2	36	N				
10-06-11	J	1	37	N				
10-06-11	J	1	31	N				
10-06-11	J	1	36	N				
10-06-11	J	1	33	Y				
10-06-11	J	1	30	N				
10-06-11	J	1	29	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-06-11	J	1	28	N				
10-06-11	J	1	29	N				
10-06-11	J	1	33	N				
10-06-11	J	1	35	N				
10-06-11	J	1	31	N				
10-06-11	J	1	33	N				
10-06-11	J	1	40	N				
10-06-11	J	1	32	N				
10-06-11	J	1	31	N				
10-06-11	J	1	40	N				
10-06-11	J	1	30	N				
10-06-11	F	1	54	N	968			
10-06-11	F	1	59	N	970			
10-06-11	J	1	35	N				
10-06-11	J	1	30	N				
10-06-11	J	1	35	N				
10-06-11	J	1	33					
10-06-11	J	1	38	N				
10-06-11	J	1	36	N				
10-06-11	J	1	32	N				
10-06-11	M	1	57	N	971			
10-06-11	J	1	36	N				
10-06-11	J	1	37	N				
10-06-11	J	1	35	N				
10-06-11	J	1	32	N				
10-06-11	J	1	29	N				
10-06-11	J	1	28	N				
10-06-11	M	1	60	N	973			
10-06-11	J	1	29	N				
10-06-11	J	1	36	N				
10-06-11	J	1	33	N				
10-06-11	M	1	70	N	964			
10-06-11	J	1	30	N				
10-06-11	J	1	38	N				
10-06-11	J	1	33	N				
10-06-11	J	1	34	N				
10-06-11	J	1	39	N				
10-06-11	J	1	31	N				
10-06-11	J	1	34	N				
10-06-11	J	1	30	N				
10-06-11	J	1	33	N				
10-06-11	J	1	33	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-06-11	F	1	63	N	951			
10-06-11	J	1	37	N				
10-06-11	J	1	32	N				
10-06-11	J	1	28	N				
10-06-11	J	1	32	N				
10-06-11	J	1	34	N				
10-06-11	J	1	35	Y				
10-06-11	J	1	31	N				
10-06-11	J	1	34					
10-06-11	J	1	35	N				
10-06-11	J	1	36	N				
10-06-11	J	1	31	N				
10-06-11	J	1	35	N				
10-06-11	J	1	37	N				
10-06-11	M	1	71	N	955			
10-06-11	F	1	66	N	965			
10-06-11	F	1	72	N	901			
10-06-11	M	1	45	N	902			
10-06-11	F	2	70	N	924			
10-06-11	J	1	34	N				
10-06-11	J	1	34	Y				
10-06-11	F	1	70	N	920			
10-06-11	J	1	36	N				
10-06-11	J	1	30	N				
10-06-11	J	1	33	N				
10-06-11	F	1	52	N	904			
10-06-11	J	1	28	N				
10-06-11	J	1	28	N				
10-06-11	M	2	56	N	921			
10-06-11	J	1	32	N				
10-06-11	J	1	33	N				
10-06-11	J	1	36	N				
10-06-11	J	1	35	N				
10-06-11	J	2	36	N				
10-06-11	J	1	33	N				
10-06-11	J	1	35	N				
10-06-11	J	1	38	N				
10-06-11	J	1	32	N				
10-06-11	J	1	28	N				
10-06-11	J	1	33	N				
10-06-11	J	1	37	N				
10-06-11	J	2	39	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-06-11	J	1	31	N				
10-07-11	J	1	30	Y				
10-07-11	J	1	31	N				
10-07-11	J	1	37	N				
10-07-11	J	1	30	N				
10-07-11	J	1	32	N				
10-07-11	J	1	28	N				
10-07-11	J	1	34	N				
10-07-11	J	1	35	N				
10-07-11	J	1	37	N				
10-07-11	J	1	36	N				
10-07-11	J	1	31	N				
10-07-11	J	1	33	N				
10-07-11	J	1	32	N				
10-07-11	J	1	32	N				
10-07-11	J	1	34	N				
10-07-11	J	1	33	N				
10-07-11	J	1	38	N				
10-07-11	J	1	38	N				
10-07-11	J	1	35	N				
10-07-11	J	1	39	N				
10-07-11	J	1	38	N				
10-07-11	J	1	37	N				
10-07-11	J	1	30	N				
10-07-11	J	1	33	N				
10-07-11	J	1	35	N				
10-07-11	J	1	32	N				
10-07-11	J	1	39	Y				
10-07-11	J	1	36	N				
10-07-11	J	1	32	N				
10-07-11	J	1	32	N				
10-07-11	J	1	33	Y				
10-07-11	J	1	30	N				
10-07-11	J	1	30	N				
10-07-11	J	1	32	N				
10-07-11	J	1	35	N				
10-07-11	J	1	33	N				
10-07-11	J	1	29	N				
10-07-11	J	1	33	N				
10-07-11	J	1	31	N				
10-07-11	J	1	28	N				
10-07-11	F	1	71	N	914			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-07-11	M	1	55	N	911			
10-07-11	F	1	65	N	915			
10-07-11	M	1	72	N	903			
10-07-11	F	1	59	N	342			
10-07-11	M	1	63	N	919			
10-07-11	M	1	58	N	918			
10-07-11	F	1	68	N	915			
10-07-11	M	1	62	N	908			
10-07-11	F	1	64	N	923			
10-07-11	M	1	75	N	912			
10-07-11	F	1	63	N	925			
10-07-11	F	1	69	N	922			
10-07-11	M	1	64	N	910			
10-07-11	F	1	58	N	913			
10-07-11	M	1	55	N	907			
10-07-11	F	1	66	N	905			
10-07-11	F	1	72	N	906			
10-07-11	M	1	77	N	909			
10-07-11	M	1	66	N	917			
10-07-11	J	1	29	Y				
10-07-11	J	1	30	N				
10-07-11	J	1	30	N				
10-07-11	J	1	30	Y				
10-07-11	J	1	29	N				
10-07-11	J	1	28	N				
10-07-11	J	1	36	Y				
10-07-11	J	1	28	N				
10-07-11	J	1	20	N				
10-07-11	J	1	28	N				
10-07-11	J	1	28	N				
10-07-11	J	1	31	N				
10-07-11	J	1	29	N				
10-07-11	J	1	31	N				
10-07-11	J	1	39	N				
10-07-11	J	1	41	Y				
10-07-11	J	1	33	N				
10-07-11	J	1	38	N				
10-07-11	J	1	30	N				
10-07-11	J	1	31	N				
10-07-11	F	1	64	N	751			
10-07-11	F	2	64	N	752			
10-07-11	M	1	47	N	753			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-07-11	F	1	75	N	754			
10-07-11	F	1	55	N	755			
10-07-11	M	1	64	N	756			
10-07-11	F	1	47	N	757			
10-07-11	F	1	68	N	758			
10-07-11	F	1	74	N	759	80563	1	
10-07-11	F	1	77	N	760	80563	2	
10-07-11	F	1	65	N	761	80563	3	
10-07-11	M	1	48	N	762			
10-07-11	M	1	55	N	763	80563	4	
10-07-11	M	1	65	N	764	80563	5	
10-07-11	M	1	68	N	765	80563	6	
10-07-11	F	1	59	N	766	80563	7	
10-07-11	M	1	62	N	767	80563	8	
10-07-11	J	1	31	N				
10-07-11	J	1	31	N				
10-07-11	J	1	33	N				
10-07-11	J	1	38	N				
10-07-11	J	1	32	N				
10-07-11	J	1	35	N				
10-07-11	J	1	34	N				
10-07-11	J	1	35	N				
10-07-11	J	1	29	N				
10-07-11	J	1	38	N				
10-07-11	J	1	29	N				
10-07-11	J	1	32	N				
10-07-11	J	1	35	N				
10-07-11	J	1	33	N				
10-07-11	J	1	33	N				
10-07-11	J	1	35	N				
10-07-11	J	1	31	N				
10-07-11	J	1	28	Y				
10-07-11	J	1	31	N				
10-07-11	J	1	26	N				
10-07-11	J	1	35	N				
10-07-11	J	1	36	Y				
10-07-11	J	1	31	N				
10-07-11	J	1	32	N				
10-07-11	J	1	35	N				
10-07-11	J	1	31	N				
10-07-11	J	1	38	N				
10-07-11	J	1	39	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-07-11	J	1	38	N				
10-07-11	J	1	28	N				
10-07-11	J	1	34	N				
10-07-11	J	1	37	N				
10-07-11	J	1	35	N				
10-07-11	J	1	29	N				
10-07-11	J	1	30	Y				
10-07-11	J	1	36	N				
10-07-11	J	1	39	N				
10-07-11	J	1	30	N				
10-07-11	J	1	32	N				
10-07-11	J	1	38	N				
10-07-11	J	1	33	N				
10-07-11	J	1	35	N				
10-07-11	J	1	34	N				
10-07-11	J	1	37	N				
10-07-11	J	1	33	N				
10-07-11	J	1	35	N				
10-07-11	J	1	36	N				
10-07-11	J	1	29	N				
10-07-11	J	1	34	N				
10-07-11	J	1	32	N				
10-07-11	J	1	35	N				
10-07-11	J	1	34	N				
10-07-11	J	1	31	N				
10-07-11	J	1	35	N				
10-07-11	J	1	39	N				
10-07-11	J	1	32	N				
10-07-11	J	1	30	N				
10-07-11	J	1	32	N				
10-07-11	J	1	37	N				
10-07-11	J	1	33	N				
10-07-11	J	1	33	N				
10-07-11	J	1	35	N				
10-07-11	J	1	35	N				
10-07-11	J	1	33	N				
10-07-11	J	1	34	N				
10-07-11	J	1	33	N				
10-07-11	J	1	35	N				
10-07-11	J	1	33	N				
10-07-11	J	1	28	N				
10-07-11	J	1	30	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-07-11	J	1	33	N				
10-07-11	J	1	32	N				
10-07-11	J	1	31	N				
10-07-11	J	1	37	N				
10-07-11	J	1	33	N				
10-07-11	J	1	29	N				
10-07-11	J	1	34	N				
10-07-11	J	1	35	N				
10-07-11	J	1	30	N				
10-07-11	J	1	36	N				
10-07-11	J	1	32	N				
10-07-11	J	1	32	N				
10-07-11	J	1	35	N				
10-07-11	J	1	39	N				
10-07-11	J	1	30	N				
10-07-11	J	1	31	N				
10-07-11	J	1	29	N				
10-07-11	J	1	34	N				
10-07-11	J	1	28	N				
10-07-11	J	1	35	N				
10-07-11	J	1	30	N				
10-07-11	J	1	33	Y				
10-07-11	J	1	36	N				
10-07-11	J	1	34	N				
10-07-11	J	1	33	N				
10-07-11	J	1	34	N				
10-07-11	J	1	29	Y				
10-07-11	J	1	30	N				
10-07-11	J	1	31	N				
10-07-11	J	1	31	N				
10-07-11	J	1	30	N				
10-07-11	J	1	38	N				
10-07-11	J	1	33	N				
10-07-11	J	1	28	N				
10-07-11	J	1	29	N				
10-07-11	J	1	29	N				
10-07-11	J	1	32	N				
10-07-11	J	1	34	N				
10-07-11	J	1	32	N				
10-07-11	J	1	32	Y				
10-07-11	J	1	35	Y				
10-07-11	J	1	35	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-07-11	J	1	33	N				
10-07-11	J	1	33	N				
10-07-11	J	1	34	N				
10-07-11	J	1	36	N				
10-07-11	J	1	33	N				
10-07-11	J	1	33	N				
10-07-11	J	1	32	N				
10-07-11	J	1	29	N				
10-07-11	J	1	34	N				
10-07-11	J	1	31	N				
10-07-11	J	1	32	N				
10-07-11	J	1	43	Y				
10-07-11	J	1	31	N				
10-07-11	J	1	34	Y				
10-07-11	J	1	34	N				
10-07-11	J	1	32	N				
10-07-11	J	1	32	N				
10-07-11	J	1	33	N				
10-07-11	J	1	41	N				
10-07-11	J	1	33	N				
10-07-11	J	1	34	Y				
10-07-11	J	1	32	N				
10-07-11	J	1	32	N				
10-07-11	J	1	37	N				
10-07-11	J	1	35	N				
10-07-11	J	1	38	N				
10-07-11	J	1	29	N				
10-07-11	J	1	37	N				
10-07-11	J	1	33	N				
10-07-11	J	1	34	N				
10-07-11	J	1	34	N				
10-07-11	J	1	42	N				
10-07-11	J	1	35	N				
10-07-11	J	1	31	N				
10-07-11	J	1	37	N				
10-07-11	J	1	31	N				
10-07-11	J	1	36	N				
10-07-11	J	1	35	N				
10-07-11	J	1	38	Y				
10-07-11	J	1	35	N				
10-07-11	J	1	42	N				
10-07-11	J	1	30	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-07-11	J	1	32	N				
10-07-11	J	1	36	N				
10-07-11	J	1	35	N				
10-07-11	J	1	31	N				
10-07-11	J	1	33	N				
10-07-11	J	1	32	N				
10-07-11	J	1	35	N				
10-07-11	J	1	39	N				
10-07-11	J	1	35	N				
10-07-11	J	1	37	N				
10-07-11	J	1	30	N				
10-07-11	J	1	32	N				
10-07-11	J	1	31	N				
10-07-11	J	1	35	Y				
10-07-11	J	1	38	N				
10-07-11	J	1	40	Y				
10-07-11	J	1	33	N				
10-07-11	J	1	32	N				
10-07-11	J	1	34	N				
10-07-11	J	1	33	N				
10-07-11	J	1	37	Y				
10-07-11	J	1	35	N				
10-07-11	J	1	30	N				
10-07-11	J	1	44	N				
10-07-11	J	1	30	N				
10-07-11	J	1	32	N				
10-07-11	J	1	35	N				
10-07-11	J	1	33	N				
10-07-11	J	1	30	N				
10-07-11	J	1	37	N				
10-07-11	J	1	32	N				
10-07-11	J	1	28	N				
10-07-11	J	1	30	N				
10-07-11	J	1	33	N				
10-07-11	J	1	33	N				
10-07-11	J	1	32	N				
10-07-11	J	1	37	N				
10-07-11	J	1	29	N				
10-07-11	J	1	32	N				
10-07-11	J	1	34	N				
10-07-11	J	1	30	N				
10-07-11	J	1	31	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-07-11	J	1	31	N				
10-07-11	J	1	36	N				
10-07-11	J	1	32	N				
10-07-11	J	1	31	N				
10-07-11	J	1	31	N				
10-07-11	J	1	30	N				
10-07-11	J	1	31	N				
10-07-11	J	1	31	N				
10-07-11	J	1	34	N				
10-07-11	J	1	31	N				
10-07-11	J	1	36	N				
10-07-11	J	1	33	N				
10-07-11	J	1	28	N				
10-07-11	J	1	32	N				
10-07-11	J	1	31	N				
10-07-11	J	1	30	N				
10-07-11	J	1	37	Y				
10-07-11	J	1	36	N				
10-07-11	J	1	42	N				
10-07-11	J	1	32	N				
10-07-11	J	1	32	N				
10-07-11	J	1	28	N				
10-07-11	J	1	33	N				
10-07-11	J	1	28	N				
10-08-11	M	1	50	N	768			
10-08-11	F	1	70		769			
10-08-11	M	1	56	N	770			
10-08-11	F	1	61	N	771			
10-08-11	F	1	71	N	772			
10-08-11	F	1	65	N	773			774/775 WASTED
10-08-11	F	1	62	N	701			
10-08-11	F	1	67		702			
10-08-11	F	1	64		703			
10-08-11	J	1	33	N				
10-08-11	J	1	31	N				
10-08-11	J	1	36	N				
10-08-11	J	1	31	N				
10-08-11	J	1	29	N				
10-08-11	J	1	38	N				
10-08-11	J	1	34	N				
10-08-11	J	1	30	N				
10-08-11	J	1	31	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-08-11	J	1	33	N				
10-08-11	J	1	34	N				
10-08-11	J	1	30	N				
10-08-11	J	1	31	N				
10-08-11	J	1	37	N				
10-08-11	J	1	42	N				
10-08-11	J	1	33	N				
10-08-11	J	1	35	N				
10-08-11	J	1	37	N				
10-08-11	J	1	35	N				
10-08-11	J	1	34	N				
10-09-11	J	1	38	N				
10-09-11	J	1	31	N				
10-09-11	J	1	33	N				
10-09-11	J	1	32	N				
10-09-11	J	1	37	N				
10-09-11	J	1	32	N				
10-09-11	J	1	35	N				
10-09-11	J	1	32	N				
10-09-11	J	1	36	N				
10-09-11	J	1	35	N				
10-09-11	J	1	31	N				
10-09-11	J	1	37	N				
10-09-11	J	1	31	N				
10-09-11	J	1	39	N				
10-09-11	J	1	34	N				
10-09-11	J	1	32	N				
10-09-11	J	1	35	N				
10-09-11	J	1	31	N				
10-09-11	J	1	32	N				
10-09-11	F	1	64	N	704			
10-09-11	J	1	32	N				
10-09-11	J	1	38	N				
10-09-11	J	1	32	N				
10-09-11	J	1	31	N				
10-09-11	J	1	33	N				
10-10-11	M	1	63		705	80563	9	
10-10-11	F	1	66		706	80563	10	
10-10-11	J	1	36					
10-10-11	J	1	34					
10-11-11	M	1	73	N	707	80564	1	
10-11-11	J	1	35	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-11-11	J	1	36	N				
10-11-11	J	1	34	N				
10-11-11	J	1	33	N				
10-11-11	J	1	32	N				
10-11-11	M	1	74	N	708	80564	2	
10-11-11	J	1	32	N				
10-11-11	J	1	32	N				
10-11-11	J	1	33	N				
10-11-11	J	1	34	N				
10-11-11	F	1	46	N	709			
10-11-11	J	1	33	N				
10-11-11	F	1	64	N	710	80564	3	
10-11-11	J	1	31	N				
10-11-11	F	1	67	N	711	80564	4	
10-11-11	M	1	71	N	712	80564	5	
10-11-11	J	1	35	N				
10-11-11	J	1	36	N				
10-11-11	M	1	66		713	80564	6	
10-11-11	J	1	38	N				
10-11-11	J	1	36	N				
10-11-11	J	1	31	N				
10-11-11	F	1	67	N	714	80564	7	
10-11-11	F	1	65	N	715	80564	8	
10-11-11	J	1	40	N				
10-11-11	F	1	53	N	716	80564	9	
10-11-11	J	1	35	Y				
10-11-11	J	1	37	N				
10-11-11	F	1	69	N	717	80564	10	
10-11-11	J	1	31	N				
10-11-11	J	1	34	N				
10-11-11	J	1	33	N				
10-11-11	F	1	69	N	718			
10-11-11	J	1	31	N				
10-11-11	J	1	35	N				
10-11-11	J	1	38	N				
10-11-11	J	1	33	N				
10-11-11	J	1	36	N				
10-11-11	J	1	37	N				
10-11-11	J	1	39	N				
10-11-11	J	1	32	N				
10-11-11	J	1	31	N				
10-11-11	J	1	35	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-11-11	J	1	35	N				
10-11-11	J	1	31	N				
10-11-11	J	1	38	N				
10-11-11	J	1	35	N				
10-11-11	J	1	36	N				
10-11-11	J	1	33	N				
10-11-11	J	1	31	N				
10-11-11	J	1	34	N				
10-11-11	J	1	33	N				
10-11-11	J	1	33	N				
10-11-11	J	1	32	N				
10-11-11	J	1	32	N				
10-11-11	J	1	33	N				
10-11-11	J	1	33	N				
10-11-11	J	1	35	N				
10-11-11	J	1	38	N				
10-11-11	J	1	33	N				
10-11-11	J	1	36	N				
10-11-11	J	1	30	N				
10-11-11	J	1	37	N				
10-11-11	J	1	33	N				
10-11-11	J	1	38	N				
10-11-11	J	1	33	N				
10-11-11	J	1	36	N				
10-11-11	J	1	36	N				
10-11-11	J	1	31	N				
10-11-11	J	1	34	Y				
10-11-11	J	1	37	N				
10-11-11	J	1	39	Y				
10-11-11	M	1	64	N	719			
10-11-11	F	1	64	N	720			
10-11-11	F	1	59	N	721			
10-11-11	J	1	39	N				
10-11-11	J	1	32	N				
10-11-11	J	1	32	N				
10-11-11	J	1	30					
10-11-11	J	1	37	N				
10-11-11	J	1	33	N				
10-11-11	J	1	33	N				
10-11-11	J	1	34	N				
10-11-11	J	1	36	N				
10-11-11	J	1	35	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-11-11	J	1	36	N				
10-11-11	J	1	31	N				
10-11-11	J	1	37	N				
10-11-11	J	1	33	N				
10-11-11	J	1	34	N				
10-11-11	J	1	37	N				
10-11-11	J	1	35	N				
10-11-11	J	1	30	N				
10-11-11	J	1	32	N				
10-11-11	J	1	32	N				
10-11-11	J	1	37	N				
10-11-11	J	1	31	N				
10-11-11	J	1	33	N				
10-11-11	J	1	36	N				
10-11-11	M	1	50	N	722			
10-11-11	M	1	53	N	723			
10-11-11	J	1	33	N				
10-11-11	J	1	32	N				
10-11-11	J	1	33	N				
10-11-11	J	1	31	N				
10-11-11	J	1	33	N				
10-11-11	J	1	35	Y				
10-11-11	J	1	38	Y				
10-11-11	J	1	39	N				
10-11-11	J	1	35	N				
10-11-11	J	1	36	N				
10-11-11	J	1	35	N				
10-11-11	J	1	31	N				
10-11-11	J	1	35	N				
10-11-11	J	1	34	N				
10-11-11	J	1	32	N				
10-11-11	J	1	35	N				
10-11-11	J	1	35	N				
10-11-11	J	1	36	N				
10-11-11	J	1	32	Y				
10-11-11	J	1	36	N				
10-11-11	J	1	32	N				
10-11-11	J	1	38	N				
10-11-11	J	1	34	N				
10-11-11	J	1	35	N				
10-11-11	J	1	37	N				
10-11-11	J	1	34	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-11-11	J	1	39	N				
10-11-11	J	1	37	N				
10-11-11	J	1	31	N				
10-11-11	J	1	32	N				
10-11-11	J	1	34	N				
10-11-11	J	1	39	N				
10-11-11	J	1	36	N				
10-11-11	J	1	34	N				
10-11-11	J	1	38	N				
10-11-11	J	1	36	N				
10-11-11	J	1	33	N				
10-11-11	J	1	38	N				
10-11-11	F	1	70	N	724			
10-11-11	F	1	69	N	725			
10-11-11	M	1	50	N	726			
10-11-11	M	1	64	N	727			
10-11-11	F	1	62	N	728			
10-11-11	F	1	67	N	729			
10-11-11	F	1	62	N	730			
10-11-11	F	1	78	N	731			
10-11-11	M	1	51	N	732			
10-11-11	M	1	54	N	733			
10-11-11	M	1	67	N	734			
10-11-11	F	1	57	N	735			
10-11-11	M	1	48	Y	736			
10-11-11	M	1	50		737			
10-11-11	J	1	36	N				
10-11-11	J	1	33	N				
10-11-11	J	1	33	N				
10-11-11	J	1	33	N				
10-11-11	J	1	33	N				
10-11-11	J	1	33	N				
10-11-11	J	1	33	N				
10-11-11	J	1	31	N				
10-11-11	J	1	31	N				
10-11-11	J	1	31	N				
10-11-11	J	1	31	N				
10-11-11	J	1	35	N				
10-11-11	J	1	40	N				
10-11-11	J	1	36	N				
10-11-11	J	1	32	N				
10-11-11	J	1	33	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-11-11	J	1	36	N				
10-11-11	J	1	40	Y				
10-11-11	J	1	37	N				
10-11-11	J	1	32	N				
10-11-11	J	1	41	N				
10-11-11	J	1	36	N				
10-11-11	J	1	38	N				
10-11-11	J	1	30	Y				
10-11-11	J	1	37	N				
10-11-11	J	1	32	N				
10-11-11	J	1	37	N				
10-11-11	J	1	35	N				
10-11-11	J	1	35	N				
10-11-11	J	1	38	Y				
10-11-11	J	1	34	N				
10-11-11	J	1	39	N				
10-11-11	J	1	33	N				
10-11-11	J	1	38	N				
10-11-11	J	1	35	N				
10-11-11	J	1	39	N				
10-11-11	J	1	33	N				
10-11-11	J	1	37	N				
10-11-11	J	1	31	N				
10-11-11	J	1	30	Y				
10-11-11	J	1	32	N				
10-11-11	J	1	35	N				
10-11-11	J	1	36	N				
10-11-11	J	1	34	N				
10-11-11	J	1	35	N				
10-11-11	J	1	31	N				
10-11-11	J	1	36	N				
10-11-11	J	1	36	N				
10-11-11	J	1	35	N				
10-11-11	J	1	32	N				
10-11-11	J	1	37	N				
10-11-11	J	1	26	N				
10-11-11	J	1	35	N				
10-11-11	J	1	31	N				
10-11-11	J	1	36	N				
10-11-11	J	1	34	N				
10-11-11	J	1	31	N				
10-11-11	J	1	37	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-11-11	J	1	32	N				
10-11-11	J	1	35	N				
10-11-11	J	1	37	N				
10-11-11	J	1	34	N				
10-11-11	J	1	33	N				
10-11-11	J	1	31	N				
10-11-11	J	1	36	N				
10-11-11	J	1	35	N				
10-11-11	J	1	39	N				
10-11-11	J	1	36	N				
10-11-11	J	1	32	N				
10-11-11	J	1	37	N				
10-11-11	J	1	34	N				
10-11-11	J	1	33	N				
10-11-11	J	1	39	N				
10-11-11	J	1	31	N				
10-11-11	J	1	37	N				
10-11-11	J	1	35	N				
10-11-11	J	1	28	N				
10-11-11	J	1	33	N				
10-11-11	J	1	36	N				
10-11-11	J	1	35	N				
10-11-11	J	1	36	N				
10-11-11	J	1	34	N				
10-11-11	J	1	33	N				
10-11-11	J	1	39	N				
10-11-11	J	1	32	N				
10-12-11	J	1	35	N				
10-12-11	J	1	37	N				
10-12-11	J	1	38	N				
10-12-11	J	1	33	Y				
10-12-11	J	1	36	N				
10-12-11	J	1	33	N				
10-12-11	F	1	63	N	739			
10-12-11	J	1	36	N				
10-12-11	J	1	33	N				
10-12-11	J	1	35	N				
10-12-11	F	1	68	N	740			
10-12-11	F	1	75	N	741			
10-12-11	M	1	59	N	742			
10-12-11	J	1	31	Y				
10-12-11	J	1	32	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-12-11	J	1	34	N				
10-12-11	J	1	35	N				
10-12-11	F	1	70	N	743			
10-12-11	F	1	64	N	744			
10-12-11	F	1	61	N	745			
10-12-11	M	1	56	N	746			
10-12-11	J	1	32	N				
10-12-11	F	1	53	N	747			
10-12-11	F	1	61	N	748			
10-12-11	J	1	30	N				
10-12-11	J	1	34	N				
10-12-11	J	1	40	N				
10-12-11	J	1	32	N				
10-12-11	J	1	30	N				
10-12-11	F	1	58	N	749			
10-12-11	F	1	67	N	750			
10-12-11	F	1	63	N	776			
10-12-11	J	1	34	N				
10-12-11	J	1	36	N				
10-12-11	F	1	70					NO TAG, PUNCHED
10-12-11	J	1	31	N				
10-12-11	J	1	27	N				
10-12-11	J	1	36	N				
10-12-11	J	1	35	Y				
10-12-11	J	1	31	N				
10-12-11	J	1	34	N				
10-12-11	J	1	37	N				
10-12-11	J	2	34	N				
10-12-11	J	2	30	N				
10-12-11	J	1	33	N				
10-12-11	J	1	32	Y				
10-12-11	J	1	37	N				
10-12-11	J	1	34	N				
10-12-11	J	1	36	N				
10-12-11	J	1	34	N				
10-12-11	J	2	38	N				
10-12-11	J	1	32	N				
10-12-11	J	1	30	N				
10-12-11	J	1	32	N				
10-13-11	J	1	39	N				
10-13-11	J	1	38	N				
10-13-11	J	1	33	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
10-13-11	J	1	40	N				
10-13-11	J	1	35	Y				
10-13-11	J	1	37	N				
10-14-11	J	1	32	N				
10-17-11	J	1	39	N				
10-23-11	J	1	31	N				
10-30-11	J	2	32	N				
11-10-11	J	1	22	N				
11-10-11	F	2	72	N	778			
11-10-11	F	2	67	N	779			
11-10-11	F	3	69	Y	780			
11-10-11	M	3	66	N	781			
11-10-11	M	3	80	N	782			
11-10-11	F	3	75	N	783	80565	1	
11-10-11	J	2	35	N				
11-10-11	M	2	68	N	784	80565	2	
11-10-11	M	2	67	N	785	80565	3	
11-10-11	F	2	63	N	786			
11-10-11	F	2	67	N	787			
11-10-11	J	2	37	N				
11-10-11	F	2	63	N	788	80565	4	
11-10-11	J	2	35	Y				
11-10-11	F	2	70	N	789			
11-10-11	F	2	67	N	790			
11-10-11	F	2	65	N	791			
11-10-11	J	2	38	N				
11-10-11	F	3	73	N	792			
11-10-11	M	2	76	N	793			
11-10-11	F	2	78	N	794			
11-10-11	J	2	36	N				
11-10-11	F	2	64	N	795	80565	5	
11-10-11	M	2	75	N	796			
11-10-11	J	2	33	N				
11-10-11	J	2	36	N				
11-10-11	J	2	28	N				
11-10-11	J	2	34	N				
11-10-11	J	2	32	N				
11-10-11	M	2	68	N	797			
11-10-11	F	3	70	N	798			
11-10-11	F	2	68	N	799			
11-10-11	F	2	65	N	800			
11-10-11	J	2	33	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-10-11	F	2	69	N	201			
11-10-11	F	2	62	N	202			
11-10-11	M	2	62	N	203			
11-10-11	J	2	35	N				
11-10-11	J	2	39	N				
11-10-11	M	2	73	N	204			
11-10-11	J	2	28	N				
11-10-11	M	2	78	N	205			
11-10-11	J	2	29	N				
11-10-11	F	2	71	N	206	80565	6	
11-10-11	J	2	31	N				
11-10-11	M	2	67	N	207			
11-10-11	F	2	72	N	208			
11-10-11	F	2	66	N	209			
11-10-11	J	2	29	N				
11-10-11	J	2	30	N				
11-10-11	J	2	29	N				
11-10-11	F	2	68	N	210			
11-10-11	M	2	71	N	211			
11-10-11	J	2	31	N				
11-10-11	F	2	62	N	212	80565	7	
11-10-11	F	2	68	N	213	80565	8	
11-10-11	M	2	75	N	214			
11-10-11	J	2	41	N				
11-10-11	J	2	38	N				
11-10-11	J	2	29	N				
11-10-11	J	2	31	N				
11-10-11	J	2	32	N				1 ESCAPED
11-10-11	F	2	72	N	215	80565	9	
11-10-11	F	2	62	N	216	80565	10	
11-10-11	J	2	32	N				
11-10-11	J	2	37	N				
11-10-11	J	2	38	N				
11-10-11	F	2	65	N	217			
11-10-11	J	2	38	N				
11-10-11	J	2	37	N				
11-10-11	J	2	32	N				
11-10-11	M	2	79	N	218			
11-10-11	J	2	35	N				
11-10-11	J	2	27	N				
11-10-11	J	2	32	N				
11-10-11	J	2	32	Y				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-10-11	F	2	73	N	219			
11-10-11	J	2	28	N				
11-10-11	F	2	71	N	220			
11-10-11	J	2	30	N				
11-10-11	J	2	32	N				
11-10-11	J	2	31	N				
11-10-11	J	2	38	N				
11-10-11	F	2	59	N	221			
11-10-11	F	2	74	-	222			1 ESCAPED
11-10-11	J	2	31	N				
11-10-11	J	2	32	N				
11-10-11	J	2	39	N				
11-10-11	J	2	33	N				
11-10-11	M	2	77	N	223			
11-10-11	J	2	32	-				
11-10-11	F	2	73	N	224			
11-10-11	J	2	28	N				
11-11-11	M	2	73	N	225			
11-11-11	M	2	64	N	226			
11-11-11	F	2	72	N	227			
11-11-11	F	2	69	N	228			
11-11-11	F	2	67	N	229			
11-11-11	M	2	74	N	230			
11-11-11	M	2	73	N	231			
11-11-11	F	2	70	N	232			
11-11-11	M	2	74	N	233			
11-11-11	F	2	62	N	234			
11-11-11	M	2	71	N	235			
11-11-11	F	2	68	N	236			
11-11-11	F	2	65	N	237			
11-11-11	F	2	64	N	238			
11-11-11	F	2	70	N	239			
11-11-11	F	2	69	N	240			
11-11-11	F	2	72	N	241			
11-11-11	F	2	62	N	242			
11-11-11	F	2	64	-	243			
11-11-11	J	2	37	-				
11-11-11	M	2	67	N	244			
11-11-11	M	2	71	N	245			
11-11-11	F	2	62	N	246			
11-11-11	M	2	75	N	247			
11-11-11	F	2	64	N	248			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-11-11	F	2	75	N	249			
11-11-11	M	2	71	N	250			
11-11-11	M	2	79	N	251			
11-11-11	M	2	55	Y	252			
11-11-11	M	2	68	N	253			
11-11-11	M	2	74	N	254			
11-11-11	F	2	68	N	255			
11-11-11	F	2	73	N	256			
11-11-11	F	2	65	N	257			
11-11-11	F	2	74	N	258			
11-11-11	F	2	72	Y	259			
11-11-11	M	2	75	N	260			
11-11-11	M	2	69	N	261			
11-11-11	M	2	78	N	263			262 WASTED
11-11-11	M	2	68	N	264			
11-11-11	F	2	65	N	265			
11-11-11	M	2	63	N				
11-11-11	F	2	70	N				
11-11-11	F	2	75	N				
11-11-11	M	2	70	N				
11-11-11	M	2	60	N				
11-11-11	F	2	70	N				
11-11-11	F	2	62	N				
11-11-11	F	2	69	N				
11-11-11	F	2	61	N				
11-11-11	M	2	68	N				
11-11-11	M	2	61	N				
11-11-11	M	2	66	N				
11-11-11	F	2	65	N				
11-11-11	F	2	78	N				
11-11-11	M	2	75	-				
11-11-11	F	2	69	-				
11-11-11	J	2	34	-				
11-11-11	J	2	35	N				
11-11-11	J	2	41	N				
11-11-11	M	2	80	N	282			
11-11-11	F	2	71	N	283			
11-11-11	F	2	70	N	284			
11-11-11	M	2	87	N	285			
11-11-11	F	2	68	N	286			
11-11-11	F	2	64	N	287			
11-11-11	F	2	73	Y	288			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-11-11	F	2	65	N	289			
11-11-11	F	2	68	N	290			
11-11-11	M	2	71	N	291			
11-11-11	F	2	62	N	292			
11-11-11	M	2	66	N	293			
11-11-11	F	2	60	N	294			
11-11-11	F	2	67	N	295			
11-11-11	M	2	49	N	296			
11-11-11	M	2	63	N	297			
11-11-11	F	2	72	N	298			
11-11-11	F	2	72	N	299			
11-11-11	F	2	71	N	300			
11-11-11	J	2	34	N				
11-11-11	J	2	34	N				
11-11-11	F	2	64	N				
11-11-11	F	2	66	N				
11-11-11	F	2	70	N				
11-11-11	M	2	75	N				
11-11-11	M	2	74	N				
11-11-11	M	2	73	N				
11-11-11	M	2	68	N				
11-11-11	F	2	55	N				
11-11-11	M	2	65	N				
11-11-11	F	2	69	N				
11-11-11	F	2	70	N				
11-11-11	M	2	71	N				
11-11-11	M	2	76	N				
11-11-11	M	2	63	N				
11-11-11	F	2	72	N				
11-11-11	M	2	68	N				
11-11-11	M	2	67	N				
11-11-11	M	2	72	N				
11-11-11	M	2	68	N				
11-11-11	M	2	65	N				
11-11-11	M	2	67	N				
11-11-11	F	2	71	N				
11-11-11	F	2	68	N				
11-11-11	M	2	55	N				
11-11-11	F	2	70	Y				
11-11-11	M	2	75	N				
11-11-11	M	2	72	N				
11-11-11	F	2	69	Y				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-11-11	F	2	67	N				
11-11-11	F	2	68	N				
11-11-11	M	2	67	N				
11-11-11	M	2	70	N				
11-11-11	F	2	74	Y				
11-11-11	F	2	67	N				
11-11-11	M	2	72	N				
11-11-11	M	2	67	N				
11-11-11	M	2	71	N				
11-11-11	M	2	76	N				
11-11-11	F	2	71	-				
11-11-11	M	2	68	N				
11-11-11	F	2	70	N				
11-11-11	F	2	61	N				
11-11-11	F	2	67	N				
11-11-11	M	2	67	N				
11-11-11	F	2	68	N				
11-11-11	F	2	73	Y				
11-11-11	M	2	71	N				
11-11-11	M	2	67	N				
11-11-11	F	2	56	N				
11-11-11	F	2	62	N				
11-11-11	F	2	72	N				
11-11-11	F	2	70	Y				
11-11-11	M	2	62	N				
11-11-11	M	2	61	N				
11-11-11	M	2	76	N				
11-11-11	F	2	76	N				
11-11-11	M	2	45	N				
11-11-11	M	2	75	N				
11-11-11	F	2	75	N				
11-11-11	F	2	56	N				
11-11-11	F	2	69	N				
11-11-11	F	2	76	N				
11-11-11	F	2	69	N				
11-11-11	M	2	60	N				
11-11-11	F	2	72	N				
11-11-11	F	2	66	N				
11-11-11	F	2	70	N				
11-11-11	F	2	71	N				
11-11-11	M	2	67	N				
11-11-11	F	2	63	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-11-11	F	2	65	N				
11-11-11	F	2	67	N				
11-11-11	F	2	64	N				
11-11-11	M	2	59	N				
11-11-11	F	2	55	N				
11-11-11	F	2	68	N				
11-11-11	M	2	72	N				
11-11-11	M	2	76	N				
11-11-11	F	2	70	N				
11-11-11	F	2	68	N				
11-11-11	F	2	69	N				
11-11-11	M	2	62	N				
11-11-11	M	2	54	N				
11-11-11	M	2	69	N				
11-11-11	F	2	62	N				
11-11-11	M	2	72	N				
11-11-11	F	2	63	N				
11-11-11	F	2	62	N				
11-11-11	M	2	60	N				
11-11-11	M	2	66	N				
11-11-11	F	2	65	N				
11-11-11	F	2	66	N				
11-11-11	F	2	69	N				
11-11-11	F	2	68	N				
11-11-11	F	2	69	N				
11-11-11	F	2	66	N				
11-11-11	F	2	63	N				
11-11-11	F	2	61	Y				
11-11-11	F	2	73	N				
11-11-11	M	2	71	N				
11-11-11	F	2	64	N				
11-11-11	F	2	66	N				
11-11-11	M	2	73	N				
11-11-11	M	2	51	N				
11-11-11	F	2	72	N				
11-11-11	F	2	56	N				
11-11-11	M	2	62	N				
11-11-11	M	2	82	N				
11-11-11	F	2	67	N				
11-11-11	F	2	75	N				
11-11-11	M	2	68	N				
11-11-11	F	2	65	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-11-11	F	2	63	N				
11-11-11	M	2	71	N				
11-11-11	F	2	73	N				
11-11-11	M	2	72	-				
11-11-11	F	2	60	N				
11-11-11	F	2	74	N				
11-11-11	M	2	75	N				
11-11-11	F	2	71	N	401			
11-11-11	F	2	69	N	402			
11-11-11	M	2	73	N	403			
11-11-11	F	2	69	N	404			
11-11-11	F	2	73	N	405			
11-11-11	F	2	71	N	406			
11-11-11	M	2	72	N	407			
11-11-11	F	2	64	N	408			
11-11-11	F	2	72	N	409			
11-11-11	F	2	58	Y	410			
11-11-11	F	2	61	N	411			
11-11-11	M	2	65	N	412			
11-11-11	F	2	60	N	413			
11-11-11	F	2	68	N	414			
11-11-11	M	2	78	N	415			
11-11-11	M	2	65	N	416			
11-11-11	F	2	68	N	417			
11-11-11	F	2	62	N	418			
11-11-11	F	2	56	N	419			
11-11-11	M	2	71	N	420			
11-11-11	F	2	68	N	421			
11-11-11	F	2	63	N	422			
11-11-11	M	2	59	N	423			
11-11-11	F	2	63	N	424			
11-11-11	F	2	64	N	425			
11-11-11	F	2	62	Y	426			
11-11-11	M	2	63	N	427			
11-11-11	M	2	70	N	428			
11-11-11	M	2	76	N	429			
11-11-11	F	2	72	N	430			
11-11-11	M	2	60	N	431			
11-11-11	F	2	59	Y	432			
11-11-11	M	2	79	N	433			
11-11-11	F	2	73	N	434			
11-11-11	M	2	63	N	435			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-11-11	F	2	65	N	436			
11-11-11	F	2	68	N	437			
11-11-11	F	2	67	N	438			
11-11-11	M	2	75	N	439			
11-11-11	F	2	68	N	440			
11-11-11	F	2	73	N	441			
11-11-11	M	2	78	N	442			
11-11-11	F	2	72	N	443			
11-11-11	M	2	73	N	444			
11-11-11	F	2	68	N	445			
11-11-11	M	2	68	N	446			
11-11-11	F	2	75	N	447			
11-11-11	M	2	70	N	448			
11-11-11	F	2	70	N	449			
11-11-11	F	2	63	N	450			
11-11-11	M	2	64	N	451			
11-11-11	F	2	71	N	452			
11-11-11	F	2	70	N	453			
11-11-11	F	2	69	N	454			
11-11-11	F	2	65	N	455			
11-11-11	F	2	68	N	456			
11-11-11	M	2	69	N	457			
11-11-11	F	2	63	N	458			
11-11-11	F	2	66	N	459			
11-11-11	M	2	70	N	460			
11-11-11	M	2	72	N	461			
11-11-11	M	2	62	N	462			
11-11-11	F	2	65	N	463			
11-11-11	M	2	64	N	464			
11-11-11	M	2	68	N	465			
11-11-11	F	2	65	Y	466			
11-11-11	F	2	66	N	467			
11-11-11	F	2	66	N	468			
11-11-11	F	2	72	N	469			
11-11-11	F	2	74	N	470			
11-11-11	M	2	72	N	471			
11-11-11	M	2	73	N	472			
11-11-11	M	2	64	N	473			
11-11-11	F	2	68	N	474			
11-11-11	M	2	61	N	475			
11-11-11	M	2	72	N	476			
11-11-11	F	2	68	N	477			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-11-11	F	2	67	N	478			
11-11-11	F	2	68	N	480			479 WASTED
11-11-11	M	2	79	N	482			481 WASTED
11-11-11	F	2	72	N	483			
11-11-11	F	2	72	N	485			484 WASTED
11-11-11	M	2	76	N	486			
11-11-11	M	2	64	N	487			
11-11-11	M	2	79	Y	491			488-490 WASTED
11-11-11	F	2	71	N	492			
11-11-11	F	2	69	N	493			
11-11-11	F	2	67	N	494			
11-11-11	F	2	69	Y	495			
11-11-11	F	2	76	N	496			
11-11-11	F	2	75	N	497			
11-11-11	M	2	75	Y	498			
11-11-11	M	2	68	N	499			
11-11-11	F	2	75	N	500			
11-11-11	M	2	79	N				
11-11-11	M	2	80	N				
11-11-11	F	2	71	N				
11-11-11	M	2	63	N				
11-11-11	F	2	69	N				
11-11-11	F	2	68	N				
11-11-11	M	2	69	N				
11-11-11	F	2	65	N				
11-11-11	F	2	68	N				
11-11-11	F	2	66	N				
11-11-11	M	2	67	N				
11-11-11	F	2	65	N				
11-11-11	M	2	73	N				
11-11-11	F	2	61	N				
11-11-11	M	2	66	N				
11-11-11	M	2	62	N				
11-11-11	F	2	70	N				
11-11-11	F	2	64	N				
11-11-11	F	2	68	N				
11-11-11	M	2	70	Y				
11-11-11	M	2	73	N				
11-11-11	M	2	54	N				
11-11-11	F	2	66	N				
11-11-11	F	2	65	N				
11-11-11	F	2	70	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-11-11	F	2	70	N				
11-11-11	M	2	69	N				
11-11-11	M	2	67	N				
11-11-11	M	2	66	N				
11-11-11	M	2	62	N				
11-11-11	F	2	68	N				
11-11-11	F	2	66	N				
11-11-11	M	2	65	N				
11-11-11	F	2	62	Y				
11-11-11	F	2	69	N				
11-11-11	F	2	69	N				
11-11-11	M	2	70	N				
11-11-11	F	2	63	N				
11-11-11	F	2	73	N				
11-11-11	M	2	74	N				
11-11-11	F	2	57	N				
11-11-11	F	2	62	N				
11-11-11	F	2	66	Y				
11-11-11	F	2	68	N				
11-11-11	F	2	70	N				
11-11-11	F	2	67	N				
11-11-11	M	2	64	N				
11-11-11	M	2	62	N				
11-11-11	F	2	63	N				
11-11-11	M	2	67	N				
11-11-11	F	2	68	N				
11-11-11	M	2	63	N				
11-11-11	F	2	70	N				
11-11-11	M	2	58	N				
11-11-11	F	2	68	N				
11-11-11	F	2	67	N				
11-11-11	M	2	75	N				
11-11-11	F	2	73	N				
11-11-11	F	2	66	N				
11-11-11	M	2	66	N				
11-11-11	M	2	67	N				
11-11-11	F	2	70	N				
11-11-11	M	2	77	N				
11-11-11	M	2	76	N				
11-11-11	M	2	72	N				
11-11-11	M	2	69	N				
11-11-11	M	2	54	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-11-11	F	2	67	N				
11-11-11	F	2	71	N				
11-11-11	M	2	61	N				
11-11-11	F	2	71	N				
11-11-11	F	2	62	Y				
11-11-11	F	2	72	N				
11-11-11	F	2	60	N				
11-11-11	M	2	74	N				
11-11-11	F	2	65	N				
11-11-11	F	2	66	N				
11-11-11	M	2	73	N				
11-11-11	F	2	76	N				
11-11-11	M	2	66	N				
11-11-11	M	2	72	N				
11-11-11	F	2	71	N				
11-11-11	F	2	63	N				
11-11-11	M	2	71	N				
11-11-11	M	2	73	-				
11-11-11	M	2	55	-				
11-11-11	F	2	67	N	501			
11-11-11	F	2	65	N	502	80566	1	
11-11-11	F	2	70	N	503			
11-11-11	M	2	72	N	504			
11-11-11	F	2	64	N	505	80565	2	
11-11-11	F	2	70	N	506	80565	3	
11-11-11	F	2	74	N	507			
11-11-11	F	2	69	N	508			
11-11-11	M	2	76	N	509			
11-11-11	F	2	68	N	510			
11-11-11	M	2	74	N	511			
11-11-11	F	2	74	Y	512	80565	4	
11-11-11	F	2	72	N	513			
11-11-11	M	2	73	N	514			
11-11-11	F	2	65	N	515	80565	5	
11-11-11	M	2	62	N	516			
11-11-11	F	2	74	N	517			
11-11-11	F	2	70	N	518			
11-11-11	F	2	71	-	519	80565	6	
11-11-11	F	2	72	-	520			
11-11-11	M	2	72	N	521			
11-11-11	F	2	72	N	522	80565	7	
11-11-11	M	2	62	N	523			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-11-11	M	2	71	N	524	80565	8	
11-11-11	F	2	55	N	525	80565	9	
11-11-11	M	2	67	N	526	80565	10	
11-11-11	F	2	65	N	527			
11-11-11	F	2	58	N	528			
11-11-11	F	2	68	N	529			
11-11-11	F	2	68	N	530			
11-11-11	M	2	58	N	531			
11-11-11	F	2	70	N	532			
11-11-11	F	2	68	N	533			
11-11-11	F	2	54	Y	534			
11-11-11	F	2	67	N	535			
11-11-11	F	2	74	N	536			
11-11-11	M	2	63	N	537			
11-11-11	F	2	62	N	538			
11-11-11	M	2	51	N	539			
11-11-11	M	2	52	N	540			
11-11-11	F	2	67	N	541			
11-11-11	F	2	51	N	542			
11-11-11	F	2	70	N	543			
11-11-11	F	2	65	N	544			
11-11-11	F	2	65	N	545			
11-11-11	M	2	67	N	546			
11-11-11	M	2	66	N	547			
11-11-11	F	2	63	-	548			
11-11-11	M	2	70	N	549			
11-11-11	M	2	63	N	550			
11-11-11	F	2	66	N	551			
11-11-11	F	2	70	N	552			
11-11-11	F	2	66	N	553			
11-11-11	F	2	61	N	554			
11-11-11	F	2	57	-	555			
11-11-11	F	2	70	-				
11-11-11	F	2	71	-				
11-11-11	M	2	75	-				
11-11-11	M	2	76	-				
11-11-11	M	2	68	-				
11-11-11	J	1	35	N				
11-11-11	J	2	36	N				
11-11-11	J	2	30	N				
11-11-11	J	2	32	Y				
11-11-11	J	2	38	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-11-11	J	2	40	N				
11-11-11	J	2	42	N				
11-11-11	J	2	31	N				
11-11-11	J	2	33	N				
11-11-11	J	2	37	N				
11-11-11	J	2	44	N				
11-11-11	J	2	40	N				
11-11-11	J	2	32	N				
11-11-11	J	2	36	N				
11-11-11	J	2	37	N				
11-11-11	J	2	36	Y				
11-11-11	J	2	34	N				
11-11-11	J	2	33	N				
11-11-11	J	2	31	N				
11-11-11	J	2	36	N				
11-11-11	J	2	37	N				
11-11-11	J	2	34	N				
11-11-11	J	2	33	N				
11-11-11	J	2	33	N				
11-11-11	J	2	37	N				
11-11-11	J	2	40	N				
11-11-11	J	2	41	Y				
11-11-11	J	2	39	N				
11-11-11	J	2	38	N				
11-11-11	J	2	33	N				
11-11-11	J	2	32	N				
11-11-11	J	2	31	N				
11-11-11	J	2	43	N				
11-11-11	J	2	42	N				
11-11-11	J	2	37	N				
11-11-11	J	2	36	N				
11-11-11	J	2	35	N				
11-11-11	J	2	34	N				
11-11-11	J	2	32	N				
11-11-11	J	2	33	N				
11-11-11	J	2	41	N				
11-11-11	J	2	40	N				
11-11-11	J	2	33	N				
11-11-11	J	2	33	Y				
11-11-11	J	2	36	N				
11-11-11	J	2	37	N				
11-11-11	J	2	37	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-11-11	J	2	31	N				
11-11-11	J	2	39	N				
11-11-11	J	2	37	N				
11-11-11	J	2	34	N				
11-11-11	J	2	34	N				
11-11-11	J	2	35	N				
11-11-11	J	2	35	N				
11-11-11	J	2	36	N				
11-11-11	J	2	31	N				
11-11-11	J	2	30	Y				
11-11-11	J	2	29	N				
11-11-11	J	2	31	N				
11-11-11	J	2	33	N				
11-12-11	F	2	71	N	556			
11-12-11	F	2	60	N	557			
11-12-11	M	2	57	N	558			
11-12-11	M	2	77	N	559			
11-12-11	F	2	70	N	560			
11-12-11	M	2	69	N	561			
11-12-11	F	2	62	N	562			
11-12-11	F	2	56	N	563			
11-12-11	F	2	73	N	564			
11-12-11	M	2	75	N	565			
11-12-11	F	2	64	N	566			
11-12-11	F	2	73	N	567	80567	1	
11-12-11	M	2	69	N	568			
11-12-11	M	2	69	N	569			
11-12-11	M	2	68	N	570			
11-12-11	F	2	69	N	571			
11-12-11	F	2	66	N	572			
11-12-11	M	2	52	N	573			
11-12-11	M	2	70	N	574			
11-12-11	F	2	59	N	575			
11-12-11	F	2	69	N	576			
11-12-11	M	2	62	N	577			
11-12-11	M	2	71	N	578			
11-12-11	M	2	68	N	579			
11-12-11	M	2	76	N	580			
11-12-11	F	2	69	N	581			
11-12-11	F	2	68	N	582			
11-12-11	M	2	74	N	583			
11-12-11	M	2	64	N	584			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-12-11	M	2	55	N	585	80567	2	
11-12-11	M	2	74	N	586			
11-12-11	F	2	62	N	587			
11-12-11	M	2	65	N	588			
11-12-11	F	2	71	N	589			
11-12-11	F	2	68	N	590	80567	3	
11-12-11	F	2	65	N	591			
11-12-11	F	2	71	N	592			
11-12-11	F	2	59	N	593			
11-12-11	F	2	69	-	594			
11-12-11	F	2	63	N	595	80567	4	
11-12-11	F	2	71	N	596			
11-12-11	M	2	74	N	597			
11-12-11	M	2	68	N	598			
11-12-11	M	2	76	N	599			
11-12-11	F	2	61	N	600			
11-12-11	F	2	69	N	601			
11-12-11	M	2	70	N	602			
11-12-11	F	2	59	N	603			
11-12-11	M	2	75	N	604			
11-12-11	M	2	61	N	605			
11-12-11	F	2	66	N	606			
12-11-11	J	2	31	-				
12-11-11	J	2	37	-				
12-11-11	J	2	34	-				
12-11-11	J	2	30	-				
12-11-11	J	2	32	-				
12-11-11	J	2	39	-				
11-13-11	M	2	68	N	607			
11-13-11	F	2	73	N	608			
11-13-11	F	2	69	N	609			
11-14-11	F	2	71	-	610			
11-14-11	M	2	70	-	611			
15/11/11	J	2	-	-				
16/11/11	J	2	-	-				
11-17-11	F	2	70	N	612			
11-17-11	M	2	72	N	613			
11-17-11	M	2	73	N	614			
11-17-11	F	2	72	N	615			
11-17-11	F	2	73	N	616			
17/11/11	J	2	39	N				
11-17-11	M	2	66	N	617			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-18-11	F	2	71	N	618			
11-22-11	F	2	65	-	619			
11-22-11	J	2	31	-				
11-22-11	F	2	55	N	638			
11-22-11	F	2	64	N	664			
11-22-11	M	2	72	N	654			
11-22-11	M	-	75	N	650			
11-22-11	J	-	40	N				
11-22-11	M	-	76	N	651			
11-22-11	J	-	33	N				
11-22-11	M	-	53	N	652			
11-22-11	F	-	74	N	653	80567	5	
11-22-11	F	-	65	-	655	80567	6	
11-22-11	F	-	70	N	656	80567	7	
11-22-11	M	-	71	N	657			
11-22-11	F	-	70	N	658			
11-22-11	M	-	76	N	659			
11-22-11	F	-	65	N	660			
11-22-11	F	-	70	N	661			
11-22-11	F	-	68	N	662			
11-22-11	F	-	65	N	665			
11-22-11	F	-	70	N	667	80567	8	
11-22-11	F	-	67	N	668			
11-22-11	F	-	62	N	669			
11-22-11	F	-	72	N	670			
11-22-11	J	-	42	N				
11-22-11	J	-	37	N				
11-22-11	M	-	62	N	672	80567	9	
11-22-11	F	-	67	N	673			
11-22-11	M	-	68	N	674			
11-22-11	F	-	70	N				
11-22-11	J	-	40	N				
11-22-11	J	-	38	N				
11-22-11	J	-	38	N				
11-22-11	F	-	76	N	675			
11-22-11	F	-	76	N	676			
11-22-11	F	-	67	N	677	80567	10	
11-22-11	F	-	73	-				
11-22-11	F	-	71	-	678			
11-22-11	M	-	54	N	680			
11-22-11	F	-	69	N	681			
11-22-11	J	-	41	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-22-11	F	-	70	N	682			
11-22-11	J	-	39	N				
11-22-11	J	-	38	N				
11-22-11	F	-	72	-	683			
11-22-11	F	-	71	N	684			
11-22-11	M	-	59	N	685			
11-22-11	F	-	63	N	686			
11-22-11	J	-	29	N				
11-22-11	M	-	72	N	687			
11-22-11	F	-	75	N	688			
11-22-11	J	-	32	N				
11-22-11	F	-	67	N	689			
11-22-11	F	-	71	N	690			
11-22-11	M	-	67	N	691			
11-22-11	J	-	32	N				
11-22-11	F	-	77	N	692			
11-22-11	F	-	60	N	693			
11-22-11	M	-	62	N	694			
11-22-11	F	-	63	-	695	80568	1	
11-22-11	F	-	72	-	696			
11-22-11	F	-	66	-	699			
11-22-11	M	-	73	-	666			
11-22-11	J	-	31	Y				
11-22-11	F	-	67	-	1256			
11-22-11	M	-	72	N	630			
11-22-11	M	-	73	N	631			
11-22-11	F	-	71	N	656			
11-22-11	J	-	33	N				
11-22-11	M	-	65	N	648			
11-22-11	M	-	68	N	697			
11-22-11	J	-	30	N				
11-22-11	J	-	31	N				
11-22-11	M	-	69	N	700			
11-22-11	J	-	38	N				
11-22-11	M	-	70	N	662			
11-22-11	J	-	39	N				
11-22-11	F	-	68	N	636			
11-22-11	F	-	69	N	647			
11-22-11	F	-	71	N	642			
11-22-11	F	-	67	N	620			
11-22-11	M	-	71	N	621			
11-22-11	J	-	30	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-22-11	J	-	40	N				
11-22-11	F	-	71	N	640			
11-22-11	M	-	68	N	622			
11-22-11	F	-	69	N	623			
11-22-11	F	-	72	N	624			
11-22-11	M	-	70	N	625			
11-22-11	M	-	65	N	626			
11-22-11	F	-	63	N	627			
11-22-11	F	-	67	N	628			
11-22-11	F	-	69	N	629			
11-22-11	M	-	72	N	634			
11-22-11	M	-	71	N	635			
11-22-11	F	-	74	N	643			
11-22-11	F	-	61	N	637			
11-22-11	J	-	25	N				
11-22-11	F	-	70	N	639			
11-22-11	M	-	60	N	641			
11-22-11	F	-	65	N	644			
11-22-11	M	-	54	N	645			
11-22-11	F	-	67	N	646			
11-22-11	F	-	58	N	649			
11-22-11	J	-	38	N				
11-22-11	M	-	61	N	1263			
11-22-11	F	-	62	N	1272			
11-22-11	F	-	66	N	1259			
11-22-11	F	-	62	N	1266			
11-22-11	F	-	56	N	1265			
11-22-11	F	-	67	N	1257			
11-22-11	F	-	73	N	1262			
11-22-11	M	-	58	N	1254			
11-22-11	M	-	57	N	1251	80568	2	
11-22-11	F	-	75	N	1264			
11-22-11	F	-	74	N	1271			
11-22-11	F	-	70	N	1261			
11-22-11	F	-	71	N	1222			
11-22-11	F	-	63	N	1247			
11-22-11	J	-	34	N				
11-22-11	M	-	56	N	1218			
11-22-11	M	-	71	N	1249			
11-22-11	F	-	64	N	1233			
11-22-11	F	-	66	N	1235			
11-22-11	M	-	67	N	1240			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-22-11	F	-	66	N	1237			
11-22-11	J	-	31	N				
11-22-11	M	-	65	N	1239			
11-22-11	F	-	66	N	1260			
11-22-11	M	-	47	N	1292			
11-22-11	M	-	77	-	1300			
11-22-11	M	-	66	-	1287			
11-22-11	J	-	33	N				
11-22-11	J	-	31	N				
11-22-11	J	-	29	N				
11-22-11	M	-	65	N	1282			
11-22-11	F	-	66	N	1253			
11-22-11	J	-	38	N				
11-22-11	J	-	39	N				
11-22-11	M	-	60	N	1252			
11-22-11	F	-	65	N	1293	80568	3	
11-22-11	F	-	63	N	1227			
11-22-11	J	-	35	N				
11-22-11	F	-	63	N	1230			
11-22-11	F	-	73	N	1242			
11-22-11	J	-	30	N				
11-22-11	F	-	66	N	1277			
11-22-11	F	-	53	Y	1219	80568	4	
11-22-11	M	-	73	N	1208			
11-22-11	M	-	68	N	1223			
11-22-11	M	-	71	N	1211			
11-22-11	M	-	67	N	1212			
11-22-11	F	-	67	N	1225			
11-22-11	M	-	75	N	1204			
11-22-11	J	-	33	N				
11-22-11	J	-	40	N				
11-22-11	F	-	66	N	1229			
11-22-11	M	-	74	N	1232			
11-22-11	F	-	68	N	1202			
11-22-11	F	-	70	N	1209	80568	5	
11-22-11	F	-	70	N	1216			
11-22-11	J	-	32	N				
11-22-11	M	-	65	-	1205			
11-22-11	F	-	72	N	1203			
11-22-11	F	-	70	-	1276			
11-22-11	F	-	63	N	1210			
11-22-11	M	-	68	N	1234			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-22-11	M	-	75	N	1207			
11-22-11	M	-	64	N	1201			
11-22-11	F	-	68	N	1224			
11-22-11	F	-	62	N	1206			
11-22-11	M	-	79	N	1214			
11-22-11	F	-	71	N	1291			
11-22-11	M	-	65	N	1215			
11-22-11	M	-	56	N	1285			
11-22-11	M	-	70	N	1279			
11-22-11	M	-	67	N	1243			
11-22-11	M	-	66	N	1286			
11-22-11	M	-	60	N	1273			
11-22-11	F	-	74	N	1295			
11-22-11	F	-	68	N	1298	80568	6	
11-22-11	J	-	32	N				
11-22-11	M	-	63	N	1241			
11-22-11	M	-	66	N	1274			
11-22-11	M	-	67	N	1297			
11-22-11	M	-	55	N	1299			
11-22-11	M	-	69	N	1275			
11-22-11	J	-	35	N				
11-22-11	F	-	68	N	1294	80568	7	
11-22-11	F	-	70	N	1283			
11-22-11	F	-	70	N	1284			
11-22-11	J	-	32	N				
11-22-11	M	-	67	N	1289			
11-22-11	F	-	62	N	1288	80568	8	
11-22-11	M	-	76	N	1296			
11-22-11	J	-	38	N				
11-22-11	F	-	56	N	1244			
11-22-11	F	-	63	N	1258	80568	9	
11-22-11	M	-	64	N	1290			
11-22-11	F	-	71	N	1238	80568	10	
11-22-11	F	-	71	N	1268			
11-22-11	M	-	76	N	1269			
11-22-11	F	-	67	N	1270			
11-22-11	M	-	75	N	1246			
11-22-11	F	-	73	-	1267			
11-22-11	M	-	71	N	1245			
11-22-11	J	-	35	N				
11-22-11	J	-	30	N				
11-22-11	F	-	67	N	1280			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-22-11	M	-	56	N	1221			
11-22-11	J	-	40	N				
11-22-11	J	-	37	N				
11-22-11	F	-	66	N	1281			
11-22-11	J	-	44	N				
11-22-11	J	-	40	N				
11-22-11	M	-	66	N	1231			
11-22-11	J	-	38	N				
11-22-11	J	-	28	N				
11-22-11	J	-	37	N				
11-22-11	J	-	30	N				
11-22-11	J	-	42	N				
11-22-11	J	-	38	N				
11-22-11	F	-	70	N	1220			
11-22-11	F	-	72	-	1033			
11-22-11	F	-	67	-	1030			
11-22-11	F	-	70	-	1031			
11-22-11	F	-	65	-	1035			
11-22-11	F	-	69	-	1042			
11-22-11	M	-	62	-	1228			
11-22-11	M	-	73	-	1037			
11-22-11	M	-	71	-	1039			
11-22-11	M	-	65	-	1049			
11-22-11	F	-	73	-	1050	80569	1	
11-22-11	F	-	69	-	1041			
11-22-11	F	-	66	-	1023			
11-22-11	F	-	61	-	1047			
11-22-11	F	-	71	-	1038			
11-22-11	F	-	57	-	1032	80569	2	
11-22-11	J	-	38	-				
11-22-11	F	-	65	-	1026			
11-22-11	J	-	32	-				
11-22-11	J	-	38	-				
11-22-11	F	-	72	-	1043			
11-22-11	F	-	65	-	1028			
11-22-11	M	-	72	-	1052			
11-22-11	M	-	74	N	1057			
11-22-11	J	-	32	N				
11-22-11	M	-	66	N	1053			
11-22-11	F	-	71	N	1069			
11-22-11	M	-	62	N	1075			
11-22-11	F	-	72	N	1073			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-22-11	M	-	74	N	1054			
11-22-11	M	-	74	N	1056			
11-22-11	M	-	74	N	1059			
11-22-11	F	-	62	N	1034			
11-22-11	F	-	69	N	1236			Very Big Stomach
11-22-11	F	-	63	N	1217			
11-22-11	M	-	65	N	1226			
11-22-11	F	-	63	N	1248			
11-22-11	J	-	33	N				
11-22-11	F	-	68	N	633			
11-22-11	F	-	67	N	1027			
11-22-11	M	-	59	N	1068			
11-22-11	F	-	66	N	1065			
11-22-11	M	-	75	N	1278			
11-23-11	F	3	68	N	1088			
11-23-11	F	3	68	N	1079			
11-23-11	F	3	64	N	1097			
11-23-11	F	3	70	N	1082			
11-23-11	F	2	64	N	1086			
11-23-11	M	3	73	N	1095			
11-23-11	F	2	70	N	1089	80569	3	
11-23-11	M	3	73	N	1083			
11-23-11	F	2	61	-	1078	80569	4	
11-23-11	J	2	34	N				
11-23-11	J	3	36	N				
11-23-11	F	2	75	N	1085			
11-23-11	M	3	59	N	1098			
11-23-11	M	3	60	N	1096			
11-23-11	M	3	63	N	1087			
11-23-11	F	2	73	-	1048	80569	5	
11-23-11	F	3	66	N	1081			
11-23-11	M	3	56	N	1092			
11-23-11	M	3	69	N	1066			
11-23-11	M	2	69	N	1080	80569	6	
11-23-11	F	3	64	N	1077			
11-23-11	F	3	63	N	1061			
11-23-11	F	3	69	N	1094			
11-23-11	F	3	67	N	1036			
11-23-11	M	3	73	N	1084			
11-23-11	F	3	62	N	1090			
11-23-11	F	3	71	N	1100			
11-23-11	M	3	73	N	1051			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-23-11	F	3	68	N	1040			
11-23-11	F	3	69	N	1072			
11-23-11	M	3	72	N	1058			
11-23-11	M	3	64	N	1099			
11-23-11	M	3	75	N	1045			
11-23-11	F	3	73	N	1093			
11-23-11	F	3	70	N	1064			
11-23-11	F	-	61	N	1091	80569	7	
11-23-11	M	-	70	N	1076			
11-23-11	J	-	35	N				
11-23-11	M	-	60	N	1071			
11-23-11	F	-	62	N	1067			
11-23-11	F	3	68	N	1062			
11-23-11	M	3	52	N	1063			
11-23-11	F	3	72	N	1060			
11-23-11	F	3	61	N	1071	80569	8	
11-23-11	F	3	74	N	1074			
11-23-11	F	3	59	N	1044			
11-23-11	M	3	67	N	1255			
11-23-11	M	3	65	N	1045			
11-23-11	F	3	67	N	1055			
11-23-11	M	3	59	N	1001			
11-23-11	F	3	61	N	1013			
11-23-11	F	3	70	N	1011			
11-23-11	F	3	59	N	1025			
11-23-11	F	3	62	N	1020			
11-23-11	M	3	79	N	1010			
11-23-11	F	3	71	N	1005	80569	9	
11-23-11	F	3	70	N	1017			
11-23-11	F	3	69	N	1018			
11-23-11	F	3	70	N	1007			
11-23-11	F	3	72	N	1004			
11-23-11	J	-	35	N				
11-23-11	J	-	31	N				
11-23-11	J	-	32	N				
11-23-11	J	-	30	N				
11-23-11	F	-	69	N	1014			
11-23-11	F	-	73	N	1012			
11-23-11	F	-	61	N	1019			
11-23-11	F	-	71	N	1008			
11-23-11	F	-	63	N	1024			
11-23-11	F	-	65	N	1003			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-23-11	M	-	70	N	1009			
11-23-11	M	-	69	N	1006			
11-23-11	F	-	75	N	1015			
11-23-11	M	-	65	N	1021	80569	10	
11-23-11	M	-	67	N	1016			
11-23-11	F	-	62	N	1022			
11-23-11	M	-	66	N	1002			
11-23-11	F	-	59	N	1023			
11-23-11	M	-	73	N	815			
11-23-11	J	-	33	N				
11-23-11	F	2	69	N	803			
11-23-11	M	2	74	N	823			
11-23-11	F	2	72	N	819			
11-23-11	F	2	58	N	820	80570	1	
11-23-11	M	2	70	N	805			
11-23-11	F	2	69	N	818	80570	2	
11-23-11	M	2	70	N	817			
11-23-11	M	2	66	N	814			
11-23-11	F	2	67	N	801			
11-23-11	M	2	55	N	804	80570	3	
11-23-11	F	2	72	N	810			
11-23-11	F	2	69	N	822			
11-23-11	F	2	77	N	803			
11-23-11	F	2	67	N	802			
11-23-11	M	2	68	N	808			
11-23-11	M	2	64	N	825			
11-23-11	J	2	36	N				
11-23-11	J	2	32	N				
11-23-11	J	2	31	N				
11-23-11	J	2	30	N				
11-23-11	F	2	66	N	824	80570	4	
11-23-11	M	2	58	N	816			
11-23-11	F	2	66	N	811	80570	5	
11-23-11	F	2	71	N	812	80570	6	
11-23-11	M	2	68	N	805			
11-23-11	F	2	71	N	807			
11-23-11	M	2	74	N	877			
11-23-11	F	2	64	N	890			
11-23-11	M	2	70	N	876			
11-23-11	F	2	71	N	895			
11-23-11	F	2	64	N	883	80570	7	
11-23-11	F	2	70	N	882			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-23-11	M	2	71	N	888			
11-23-11	M	2	77	N	878			
11-23-11	M	2	63	N	880			
11-23-11	M	2	63	N	895	80570	8	
11-23-11	J	2	34	N				
11-23-11	J	2	36	N				
11-23-11	J	2	32	N				
11-23-11	J	2	35	N				
11-23-11	J	-	35	N				
11-23-11	J	-	38	N				
11-23-11	J	-	31	N				
11-23-11	J	-	30	N				
11-23-11	J	-	33	N				
11-23-11	J	-	34	N				
11-23-11	J	-	31	N				
11-23-11	J	-	34	N				
11-23-11	J	-	31	N				
11-23-11	J	-	33	N				
11-23-11	J	-	36	N				
11-23-11	F	2	57	N	879			
11-23-11	F	2	59	N	885			
11-23-11	M	2	58	N	884	80570	9	
11-23-11	F	2	61	N	897			
11-23-11	M	2	67	N	893			
11-23-11	F	2	66	N	885			
11-23-11	F	2	71	N	813			
11-23-11	F	2	70	N	892	80570	10	
11-23-11	F	2	65	N	900			
11-24-11	F	2	69	N	891			
11-24-11	M	2	75	N	898			
11-24-11	F	2	69	N	894			
11-24-11	F	2	68	N	881			
11-24-11	M	2	70	N	821			
11-24-11	M	2	67	-	889			
11-24-11	M	2	74	-	887			
11-24-11	F	2	74	-	899			
11-24-11	M	2	65	-	859			
11-24-11	F	2	55	-	833			
11-24-11	J	-	34	N				
11-24-11	J	-	31	N				
11-24-11	J	-	33	N				
11-24-11	J	-	31	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-24-11	J	-	32	N				
11-24-11	J	-	36	N				
11-24-11	J	-	33	N				
11-24-11	J	-	30	N				
11-24-11	J	-	31	N				
11-24-11	J	-	34	N				
11-24-11	M	2	68	N				
11-24-11	F	2	50	N				
11-24-11	M	2	61	N				
11-24-11	M	2	62	N				
11-24-11	F	2	72	N				
11-24-11	M	2	63	N				
11-24-11	F	2	73	N				
11-24-11	F	2	73	N				
11-24-11	F	2	72	N				
11-24-11	F	2	73	N				
11-24-11	F	2	66	N				
11-24-11	F	2	75	N				
11-24-11	F	2	71	N				
11-24-11	F	2	61	N				
11-24-11	J	-	33	N				
11-24-11	J	-	36	N				
11-24-11	J	-	34	N				
11-24-11	J	-	31	N				
11-24-11	J	-	30	N				
11-24-11	J	-	33	N				
11-25-11	F	2	64	N	856	80571	1	
11-25-11	F	-	67	N	837	80571	2	
11-25-11	F	-	68	N	849	80571	3	
11-25-11	F	-	73	N	834	80571	4	
11-25-11	F	-	68	N	837	80571	5	
11-25-11	M	-	67	N	843	80571	6	
11-25-11	F	-	70	N	842			
11-25-11	F	-	64	N	840			
11-25-11	M	-	69	N	859			
11-25-11	F	-	73	N	821			
11-25-11	F	-	64	N	830			
11-25-11	F	-	65	N	832			
11-25-11	M	-	74	N	841			
11-25-11	F	-	71	N	829			
11-25-11	M	-	61	N	838			
11-25-11	M	-	70	N	846			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-25-11	F	-	53	N	825	80571	7	
11-25-11	J	-	31	N				
11-25-11	J	-	38	N				
11-25-11	J	-	36	N				
11-25-11	M	-	71	N	869	80571	8	
11-25-11	F	-	69	N	860	80571	9	
11-25-11	M	-	71	N	873			
11-25-11	M	-	79	N	870			
11-25-11	F	-	66	N	826			
11-25-11	M	-	78	N	872			
11-25-11	F	-	71	N	852			
11-25-11	F	-	67	N	871	80571	10	
11-25-11	F	-	72	N	865	80572	1	
11-25-11	M	-	75	N	851			
11-25-11	M	-	60	N	859	80572	2	
11-25-11	F	-	67	N	854			
11-25-11	M	-	62	N	868			
11-25-11	F	-	71	N	853	80572	3	
11-25-11	F	-	70	N	863	80572	4	
11-25-11	J	-	30	N				
11-25-11	J	-	33	N				
11-25-11	J	-	36	N				
11-25-11	J	-	35	N				
11-25-11	J	-	28	N				
11-25-11	F	-	68	N	875			
11-25-11	F	-	71	N	864			
11-25-11	F	-	66	N	874			
11-25-11	F	-	65	N	1174			
11-25-11	F	-	70	N	1163			
11-25-11	M	-	76	N	1151	80572	5	
11-25-11	F	-	75	N	1172			
11-25-11	M	-	78	N	1165	80572	6	
11-25-11	F	-	54	N	1122	80572	7	
11-25-11	F	-	70	N	1169			
11-25-11	F	-	76	N	1164			
11-25-11	M	-	75	N	1175	80572	8	
11-25-11	M	-	68	N	1168			
11-25-11	F	-	68	N	1162			
11-25-11	M	-	72	N	1152			
11-25-11	J	-	31	N				
11-25-11	J	-	33	N				
11-25-11	J	-	30	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-25-11	J	-	27	N				
11-25-11	J	-	34	N				
11-25-11	F	2	74	N	1157			
11-25-11	F	2	69	N	1156			
11-25-11	M	2	75	N	1158			
11-25-11	F	2	69	N	1155	80572	9	
11-25-11	F	2	67	N	1160			
11-25-11	F	2	68	N	1154	80572	10	
11-25-11	F	2	70	N	1170			
11-25-11	M	2	72	N	1171			
11-25-11	M	2	76	N	1161			
11-25-11	F	-	70	N	1153			
11-25-11	F	-	75	N	1167			
11-25-11	M	-	60	N	1154			
11-25-11	F	-	65	N	1182			
11-25-11	F	-	62	N	1200			
11-25-11	F	-	75	N	1197			
11-25-11	M	-	79	N	1177			
11-25-11	M	-	74	N	1181			
11-25-11	F	-	68	N	1179			
11-25-11	J	-	31	N				
11-25-11	J	-	32	N				
11-25-11	F	2	70	N	1194			
11-25-11	F	-	74	N	1191			
11-25-11	F	-	61	N	1184			
11-25-11	F	-	72	N	1199			
11-25-11	F	-	66	N	1189			
11-25-11	F	-	67	N	1178			
11-25-11	F	-	74	N	1186			
11-25-11	M	-	50	N	1198			
11-25-11	F	-	75	N	1180			
11-25-11	F	-	69	N	1192			
11-25-11	M	-	78	N	1187			
11-25-11	F	-	72	N	1188			
11-25-11	J	-	31	N				
11-25-11	J	-	34	N				
11-25-11	J	-	35	N				
11-25-11	J	-	32	N				
11-25-11	J	-	30	N				
11-25-11	J	-	31	N				
11-25-11	J	-	40	N				
11-25-11	J	-	31	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-25-11	M	2	46	N	1183			
11-25-11	F	2	74	N	1195			
11-25-11	M	2	66	N	1193			
11-25-11	M	2	60	N	1198			
11-25-11	M	2	45	N	1190			
11-25-11	M	2	69	N	1185			
11-25-11	M	2	81	N	1176			
11-25-11	F	-	68	N	1139			
11-25-11	M	-	75	-	1141			
11-27-11	M	2	58	N	1120			
11-27-11	M	2	54	N	1122			
11-27-11	M	2	58	N	1117	80573	1	
11-27-11	M	2	57	N	1116			
11-27-11	F	2	61	N	1105	80573	2	
11-27-11	F	2	72	N	1101			
11-27-11	F	2	70	N	1109			
11-27-11	F	2	69	N	1123			
11-27-11	M	2	82	N	1102			
11-27-11	F	2	72	N	1111			
11-27-11	F	2	69	N	1104	80573	3	
11-27-11	F	2	65	N	1125			
11-27-11	F	2	62	N	1114	80573	4	
11-27-11	M	2	75	N	1121			
11-27-11	F	2	67	-	1124			
11-27-11	M	2	72	-	1108			
11-27-11	F	2	71	-	1106			
11-27-11	J	2	38	N				
11-27-11	J	2	34	N				
11-27-11	J	2	36	N				
11-27-11	F	2	66	N	1119	80573	5	
11-27-11	F	2	69	N				
11-27-11	F	2	56	Y	1110			
11-27-11	M	2	56	N	1103			
11-27-11	F	2	71	N	1107			
11-27-11	M	2	65	N	1115	80573	6	
11-27-11	F	2	73	N	1113	80573	7	
11-27-11	M	2	69	N	1112			
11-27-11	F	2	74	N	1129			
11-27-11	F	2	69	N	1132			
11-27-11	M	2	70	-	1128			
11-27-11	M	-	78	-	1142			
11-27-11	F	-	68	-	1130			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-27-11	J	-	29	N				
11-27-11	J	-	37	N				
11-27-11	J	-	30	N				
11-27-11	J	-	33	N				
11-27-11	J	-	37	N				
11-27-11	J	-	35	N				
11-27-11	J	-	39	N				
11-27-11	F	2	66	N	1136			
11-27-11	F	2	75	N	1148			
11-27-11	F	3	67	N	1133			
11-27-11	F	2	67	N	1134	80573	8	
11-27-11	F	2	75	N	1147			
11-27-11	F	2	72	N	1131			
11-27-11	F	2	62	N	1146			
11-27-11	F	2	66	N	1127			
11-27-11	F	2	66	N	1143			
11-27-11	F	2	77	N	1126			
11-27-11	M	2	76	N	1138			
11-27-11	M	2	71	N	1149			
11-27-11	F	2	67	N	1144	80573	9	
11-27-11	M	2	82	N	1140			
11-27-11	M	2	67	N	1145			
11-27-11	M	2	78	N	1137			
11-27-11	F	2	75	N	1150			
11-27-11	J	2	35	N				
11-27-11	J	2	37	N				
11-27-11	J	2	31	N				
11-27-11	M	-	57	N	1135			
11-27-11	M	-	73	N	1465			
11-27-11	M	-	59	N	1462			
11-27-11	F	-	71	N	1455			
11-27-11	F	-	67	N	1453			
11-27-11	F	-	66	N	1466			
11-27-11	M	-	76	N	1475			
11-27-11	F	-	75	N	1456	80573	10	
11-27-11	M	-	76	N	1469			
11-27-11	F	-	74	N	1464			
11-27-11	M	-	61	N	1500			
11-27-11	F	-	72	N	1463			
11-27-11	F	-	61	N	1473	80574	1	
11-27-11	F	-	74	-	1476			
11-27-11	F	-	65	-	1492			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-27-11	J	-	40	N				
11-27-11	J	-	41	N				
11-27-11	J	-	33	N				
11-27-11	J	-	32	N				
11-27-11	J	-	36	N				
11-27-11	F	2	67	N				
11-27-11	M	2	59	N	1495	80574	2	
11-27-11	F	2	65	N	1478	80574	3	
11-27-11	F	2	71	N	1491			
11-27-11	F	2	70	N	1470			
11-27-11	F	2	66	N	1460			
11-27-11	M	2	68	N	1472			
11-27-11	F	2	71	N	1459			
11-27-11	M	2	67	N	1499			
11-27-11	F	2	70	N	1461			
11-27-11	M	-	79	N	1471			
11-27-11	M	-	67	N	1467			
11-27-11	F	-	64	N	1454			
11-27-11	M	-	72	N	1474			
11-27-11	F	-	68	N	1457			
11-27-11	F	-	63	N	1451			
11-27-11	M	-	73	N	1458			
11-27-11	F	-	61	N	1452			
11-27-11	J	-	34	N				
11-27-11	J	-	36	N				
11-27-11	F	-	67	N	1468			
11-27-11	F	-	66	N	1482	80574	4	
11-27-11	F	-	64	N	1489			
11-27-11	F	-	76	N	1494			
11-27-11	M	-	75	N	1484			
11-27-11	M	-	74	N	1477			
11-27-11	F	-	66	N	1481			
11-27-11	F	-	76	N	1497			
11-27-11	M	-	62	N	1488			
11-27-11	F	-	69	N	1480			
11-27-11	M	-	66	N	1479			
11-27-11	F	-	73	N	1436			
11-27-11	M	-	73	N	1487			
11-27-11	F	-	67	-	1485			
11-27-11	F	-	52	-	1486			
11-27-11	J	-	30	N				
11-27-11	J	-	31	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-27-11	J	-	42	N				
11-27-11	J	-	32	N				
11-27-11	J	-	41	N				
11-27-11	F	2	54	N	1483			
11-27-11	M	2	65	N	1498			
11-27-11	F	2	75	N	1496			
11-27-11	M	2	65	N	1490			
11-27-11	M	2	73	N	1434			
11-27-11	F	2	64	N	1444			
11-27-11	M	2	75	N	1442			
11-27-11	F	2	75	N	1428			
11-27-11	F	2	73	N	1435			
11-27-11	M	2	70	N	1430			
11-27-11	M	2	75	-	1439			
11-27-11	M	2	72	-	1432			
11-27-11	M	2	72	-	1433			
11-27-11	J	2	29	N				
11-27-11	J	2	36	N				
11-27-11	J	2	31	Y				
11-27-11	J	2	36	N				
11-27-11	J	2	34	Y				
11-27-11	J	2	38	N				
11-27-11	J	2	34	N				
11-27-11	F	2	71	N	1427			
11-27-11	F	2	73	N	1426			
11-27-11	F	2	71	N	1429			
11-27-11	F	1	62	N	1447			
11-27-11	F	2	70	N	1438			
11-27-11	M	2	49	N	1437			
11-27-11	M	-	63	-	1449			
11-27-11	F	-	72	-	1440			
11-27-11	M	-	73	-	1446			
11-27-11	F	-	75	-	1441			
11-27-11	F	-	66	-	1443			
11-27-11	M	-	76	-	1450			
11-27-11	F	-	69	-	1431			
11-27-11	F	-	68	-	1448			
11-27-11	M	-	68	-	1445			
11-27-11	F	-	77	-	1419			
11-27-11	M	-	64	-	1403			
11-27-11	F	-	72	-	1402			
11-27-11	J	-	34	N				

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-27-11	J	-	39	N				
11-28-11	F	2	65	N	1423			
11-28-11	F	2	67	N	1427			
11-28-11	F	2	71	-	1445			
11-28-11	F	2	51	N	1402			
11-28-11	F	2	74	N	1404			
11-28-11	M	2	64	N	1420			
11-28-11	F	2	66	N	1422	80574	5	
11-28-11	M	2	77	N	1401			
11-28-11	M	2	69	N	1425			
11-28-11	F	2	67	N	1418			
11-28-11	F	2	63	N	1413	80574	6	
11-28-11	M	2	80	N	1421			
11-28-11	F	2	62	N	1404			
11-28-11	M	2	63	N	1411			
11-28-11	M	2	72	N	1415			
11-28-11	F	2	71	N	1424			
11-28-11	F	2	75	N	1417			
11-28-11	J	2	31	N				
11-28-11	J	2	35	N				
11-28-11	J	2	38	N				
11-28-11	F	2	70	N	1405			
11-28-11	F	2	63	N	1410			
11-28-11	M	2	59	N	1415			
11-28-11	F	2	65	N	1412			
11-28-11	F	2	74	N	1367			
11-28-11	F	2	68	N	1369			
11-28-11	M	2	75	N	1366			
11-28-11	F	2	74	N	1368			
11-28-11	F	2	67	N	1371			
11-28-11	F	2	71	N	1355			
11-28-11	F	2	71	N	1357			
11-28-11	F	2	65	N	1359			
11-28-11	M	2	68	N	1354			
11-28-11	M	2	72	N	1361			
11-28-11	F	2	67	N	1362			
11-28-11	M	2	69	N	1363			
11-28-11	M	2	71	N	1370			
11-28-11	F	2	62	N	1374			
11-28-11	F	2	70	N	1358			
11-28-11	J	2	31	N				
11-28-11	F	2	68	N	1351			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-28-11	M	2	70	N	1335			
11-28-11	F	2	70	N	1375			
11-28-11	F	2	68	N	1365			
11-28-11	F	2	74	N	1352			
11-28-11	M	2	70	N	1364			
11-28-11	F	2	62	-	1373			
11-28-11	M	2	67	Y	1372			
11-28-11	F	2	70	N	1360			
11-28-11	F	2	75	N	1358			
11-28-11	F	2	59	N	1330			
11-28-11	F	2	62	N	1348			
11-28-11	F	2	75	N	1331			
11-28-11	F	2	60	N	1327			
11-28-11	F	2	61	N	1326			
11-28-11	F	2	70	N	1335			
11-28-11	F	2	71	N	1342			
11-28-11	F	2	60	-	1338			
11-28-11	J	2	40	N				
11-28-11	J	2	41	N				
11-28-11	M	2	72	N	1344			
11-28-11	F	2	73	N	1349			
11-28-11	M	2	68	N	1341			
11-28-11	F	2	71	N	1345			
11-28-11	F	2	70	N	1350			
11-28-11	F	2	72	N	1335			
11-28-11	M	2	66	N	1333			
11-28-11	F	2	59	N	1343			
11-28-11	M	2	47	N	1346			
11-28-11	M	2	69	N	1332			
11-28-11	F	2	74	N	1328			
11-28-11	F	2	66	N	1345			
11-28-11	J	2	27	N				
11-28-11	J	2	35	N				
11-28-11	J	2	40	N				
11-28-11	J	2	41	N				
11-28-11	J	2	37	N				
11-28-11	J	2	31	N				
11-28-11	J	2	38	N				
11-28-11	J	2	34	N				
11-28-11	M	2	72	N	1347			
11-28-11	F	2	73	N	1337			
11-28-11	F	2	64	N	1334			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-28-11	M	2	73	N	1329			
11-28-11	M	2	74	N	1339			
11-28-11	F	2	70	N	1305			
11-28-11	F	2	57	N	1312			
11-28-11	F	2	67	N	1311			
11-28-11	M	2	64	N	1313			
11-28-11	F	2	60	N	1393			
11-28-11	M	2	70	N	1376			
11-28-11	M	2	60	N	1306			
11-28-11	F	2	63	N	1377			
11-28-11	M	2	54	N	1320			
11-28-11	F	2	69	N	1322			
11-28-11	F	2	68	N	1317			
11-28-11	M	2	72	N	1308			
11-28-11	M	2	56	N	1303			
11-28-11	J	2	36	N				
11-28-11	J	2	31	N				
11-28-11	F	2	61	Y	1325			
11-28-11	M	2	77	N	1323			
11-28-11	M	2	66	N	1301			
11-28-11	F	2	63	N	1302			
11-28-11	M	2	77	N	1324			
11-28-11	F	2	59	N	1315			
11-28-11	M	2	71	N	1309			
11-28-11	M	2	71	N	1311			
11-28-11	F	2	65	N	1314	80574	7	
11-28-11	M	2	69	N	1319			
11-28-11	M	2	46	N	1318			
11-28-11	F	2	69	N	1310			
11-28-11	M	2	63	N	1316			
11-28-11	F	2	68	N	1304			
11-28-11	M	2	84	N	1307			
11-28-11	F	2	66	N	1385			
11-28-11	F	2	77	N	1384			
11-28-11	J	2	31	N				
11-28-11	J	2	34	N				
11-28-11	J	2	37	N				
11-28-11	M	2	65	N	1386			
11-28-11	M	2	74	N	1396			
11-28-11	F	2	68	N	1394			
11-28-11	F	2	62	N	1381			
11-28-11	M	2	72	N	1368			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-28-11	F	2	73	N	1390			
11-28-11	F	2	68	N	1391			
11-28-11	F	2	66	N	1382			
11-28-11	M	2	65	N	1400			
11-28-11	M	2	72	N	1383			
11-28-11	M	2	75	N	1387			
11-28-11	F	2	64	N	1380			
11-28-11	M	2	71	N	1395			
11-28-11	F	2	58	N	1398			
11-28-11	M	2	71	-	1378			
11-28-11	F	2	64	-	1379			
11-28-11	M	2	68	-	1369			
11-28-11	M	2	68	-	1392			
11-28-11	F	2	71	N	1399			
11-28-11	M	2	72	N	1397			
11-28-11	M	2	74	N				
11-28-11	M	2	64	N				
11-28-11	M	2	71	N				
11-28-11	M	2	55	N				
11-28-11	F	2	59	N				
11-28-11	M	2	68	N				
11-28-11	F	2	68	N				
11-28-11	F	2	70	N				
11-28-11	M	2	71	N				
11-28-11	M	2	75	N				
11-28-11	J	2	31	N				
11-28-11	J	2	36	N				
11-28-11	J	2	37	N				
11-28-11	J	2	32	N				
11-28-11	J	2	32	N				
11-28-11	J	2	33	N				
11-28-11	J	2	40	N				
11-28-11	J	2	39	N				
11-28-11	J	2	36	N				
11-28-11	J	2	33	N				
11-29-11	M	2	77	N	1669			
11-29-11	F	2	63	N	1660			
11-29-11	F	2	67	N	1666			
11-29-11	M	2	73	N	1671			
11-29-11	M	2	73	N	1663			
11-29-11	M	2	79	N	1675			
11-29-11	F	2	73	N	1667			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-29-11	F	2	69	N	1652			
11-29-11	M	2	68	N	1611			
11-29-11	F	2	75	N	1664			
11-29-11	M	2	75	N	1674			
11-29-11	F	2	72	N	1668	80574	8	
11-29-11	F	2	74	N	1661	80574	9	
11-29-11	F	2	69	N	1659			
11-29-11	F	2	67	N	1672			
11-29-11	F	2	67	N	1662			
11-29-11	M	2	79	N	1654			
11-29-11	M	2	73	N	1658			
11-29-11	M	2	72	N	1674	80574	10	
11-29-11	J	2	39	N				
11-29-11	M	2	75	N	1673			
11-29-11	F	2	72	N	1655			
11-29-11	F	2	69	N	1653			
11-29-11	F	2	69	N	1656			
11-29-11	F	2	66	N	1657			
11-29-11	F	2	65	N	1665			
11-29-11	F	2	60	N	1682	86069	1	
11-29-11	F	2	68	N	1692			
11-29-11	M	2	64	Y	1683			
11-29-11	F	2	72	N	1684			
11-29-11	F	2	68	N	1693	86069	2	
11-29-11	M	2	79	N	1695			
11-29-11	F	2	70	N	1677			
11-29-11	F	2	66	N	1697	86069	3	
11-29-11	M	2	80	N	1700			
11-29-11	F	2	69	N	1678			
11-29-11	F	2	71	N	1676	86069	4	
11-29-11	F	2	66	N	1699			
11-29-11	M	2	61	N	1680			
11-29-11	J	2	30	N				
11-29-11	F	2	71	N	1689			
11-29-11	F	2	66	N	1688			
11-29-11	M	2	68	N	1687			
11-29-11	M	2	69	N	1679			
11-29-11	F	2	66	N	1690			
11-29-11	M	2	62	N	1698			
11-29-11	M	2	60	N	1691			
11-29-11	F	2	68	N	1696			
11-29-11	M	2	63	N	1681			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-29-11	F	2	69	N	1685			
11-29-11	M	2	71	N	1694			
11-29-11	M	2	70	N	1686			
11-29-11	F	2	66	N	1639			
11-29-11	M	2	64	N	1629	86069	5	
11-29-11	F	2	55	N	1645	86069	6	
11-29-11	M	2	62	-	1628			
11-29-11	J	2	30	-				
11-29-11	J	2	32	-				
11-29-11	J	2	31	N				
11-29-11	J	2	30	N				
11-29-11	F	2	63	N	1630			
11-29-11	M	2	66	N	1634			
11-29-11	M	2	74	N	1625			
11-29-11	F	2	61	N	1641			
11-29-11	F	2	77	N	1632			
11-29-11	M	2	75	N	1627			
11-29-11	M	2	49	N	1635			
11-29-11	F	2	65	N	1631			
11-29-11	F	2	67	N	1649			
11-29-11	M	2	58	N	1650			
11-29-11	F	2	69	N	1643			
11-29-11	F	2	63	N	1633			
11-29-11	M	2	63	N	1640			
11-29-11	F	2	63	N	1636			
11-29-11	F	2	64	-	1637			
11-29-11	J	2	30	-				
11-29-11	J	2	31	-				
11-29-11	J	2	30	-				
11-29-11	J	2	31	-				
11-29-11	J	2	29	-				
11-29-11	M	2	56	N	1647			
11-29-11	F	2	69	N	1648			
11-29-11	F	2	71	N	1642			
11-29-11	F	2	73	N	1638			
11-29-11	M	2	67	N	1645			
11-29-11	M	2	76	N	1644			
11-29-11	F	2	66	N	1606			
11-29-11	M	2	73	N	1602			
11-29-11	F	2	57	N	1607			
11-29-11	F	2	59	N	1615			
11-29-11	M	2	70	N	1609			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-29-11	F	2	75	N	1620			
11-29-11	F	2	58	N	1611			
11-29-11	J	2	33	N				
11-29-11	J	2	28	N				
11-29-11	J	2	31	N				
11-29-11	J	2	30	N				
11-29-11	J	2	29	N				
11-29-11	J	2	31	N				
11-29-11	J	2	32	N				
11-29-11	M	2	76	N	1615			
11-29-11	F	2	73	N	1618			
11-29-11	M	2	70	N	1613			
11-29-11	F	2	74	N	1601			
11-29-11	M	2	75	N	1619			
11-29-11	F	2	71	N	1612			
11-29-11	M	2	71	N	1608			
11-29-11	M	2	79	N	1605			
11-29-11	F	2	56	N	1603			
11-29-11	M	2	72	N	1604			
11-29-11	F	2	72	N	1617			
11-29-11	M	2	59	N	1614			
11-29-11	F	2	66	N	1622			
11-29-11	M	2	78	N	1610			
11-29-11	F	2	62	N	1625			
11-29-11	M	2	61	N	1624			
11-29-11	F	2	68	N	1623			
11-29-11	M	2	59	N	1621			
11-29-11	M	2	77	-	1521			
11-29-11	J	2	30	N				
11-29-11	M	2	66	N	1530			
11-29-11	M	2	75	N	1527			
11-29-11	F	2	55	N	1541			
11-29-11	M	2	69	N	1537			
11-29-11	F	2	67	N	1525			
11-29-11	F	2	71	N	1528			
11-29-11	M	2	58	N	1543			
11-29-11	M	2	56	N	1545			
11-29-11	F	2	68	N	1549			
11-29-11	M	2	70	N	1547			
11-29-11	F	2	64	N	1536			
11-29-11	F	2	58	N	1532			
11-29-11	M	2	71	N	1540			

Sample Date	Sex	Condition	Length (cm)	CWT	Tag Number	Scale Book	Scale	Comment
11-29-11	F	2	61	N	1550			
11-29-11	J	2	33	N				
11-29-11	J	2	32	N				
11-29-11	J	2	31	N				
11-29-11	J	2	30	N				
11-29-11	J	2	29	N				
11-29-11	J	2	33	N				
11-30-11	M	2	73	N	1542	86069	7	
11-30-11	F	2	72	N	1538			
11-30-11	M	2	75	N	1529			
11-30-11	M	2	59	N	1548			
11-30-11	F	2	58	N	1533	86069	8	
11-30-11	M	2	64	N	1539			
11-30-11	F	2	72	N	1535			
11-30-11	M	2	64	N	1534			
11-30-11	M	2	65	N	1545			
11-30-11	F	2	67	N	1544			
11-30-11	M	2	69	N				
11-30-11	F	2	65	N	1589	86069	9	
11-30-11	F	2	73	N	1594			
11-30-11	F	2	67	N	1596	86069	10	
11-30-11	F	2	69	N	1584			
11-30-11	F	2	60	N	1587	86071	1	
11-30-11	F	2	67	N	1591			
11-30-11	M	2	67	N	1592			
11-30-11	J	2	30	N				
11-30-11	J	2	31	N				
11-30-11	M	2	67	-	1588			
11-30-11	M	2	62	-	1599			
11-30-11	F	2	66	-	1580	86071	2	
11-30-11	J	2	31	N				
11-30-11	J	2	30	N				
11-30-11	J	2	33	N				
11-30-11	J	2	31	N				
11-30-11	J	2	32	N				
12-01-11	F	2	57	N	1584			
12-01-11	M	2	69	N	1581			
12-01-11	F	2	70	N	1578			